

**STATE OF UTAH**  
 DEPARTMENT OF NATURAL RESOURCES  
 DIVISION OF OIL, GAS AND MINING

FORM 3

AMENDED REPORT 

<b>APPLICATION FOR PERMIT TO DRILL</b>				<b>1. WELL NAME and NUMBER</b> NBU 921-35F4BS			
<b>2. TYPE OF WORK</b> DRILL NEW WELL <input checked="" type="checkbox"/> REENTER P&A WELL <input type="checkbox"/> DEEPEN WELL <input type="checkbox"/>				<b>3. FIELD OR WILDCAT</b> NATURAL BUTTES			
<b>4. TYPE OF WELL</b> Gas Well Coalbed Methane Well: NO				<b>5. UNIT or COMMUNITIZATION AGREEMENT NAME</b> NATURAL BUTTES			
<b>6. NAME OF OPERATOR</b> KERR-MCGEE OIL & GAS ONSHORE, L.P.				<b>7. OPERATOR PHONE</b> 720 929-6007			
<b>8. ADDRESS OF OPERATOR</b> P.O. Box 173779, Denver, CO, 80217				<b>9. OPERATOR E-MAIL</b> Kathy.SchneebeckDulnoan@anadarko.com			
<b>10. MINERAL LEASE NUMBER (FEDERAL, INDIAN, OR STATE)</b> UO 01194 ST		<b>11. MINERAL OWNERSHIP</b> FEDERAL <input type="checkbox"/> INDIAN <input type="checkbox"/> STATE <input checked="" type="checkbox"/> FEE <input type="checkbox"/>		<b>12. SURFACE OWNERSHIP</b> FEDERAL <input type="checkbox"/> INDIAN <input type="checkbox"/> STATE <input checked="" type="checkbox"/> FEE <input type="checkbox"/>			
<b>13. NAME OF SURFACE OWNER (if box 12 = 'fee')</b>				<b>14. SURFACE OWNER PHONE (if box 12 = 'fee')</b>			
<b>15. ADDRESS OF SURFACE OWNER (if box 12 = 'fee')</b>				<b>16. SURFACE OWNER E-MAIL (if box 12 = 'fee')</b>			
<b>17. INDIAN ALLOTTEE OR TRIBE NAME (if box 12 = 'INDIAN')</b>		<b>18. INTEND TO COMMINGLING PRODUCTION FROM MULTIPLE FORMATIONS</b> YES <input checked="" type="checkbox"/> (Submit Commingling Application) NO <input type="checkbox"/>		<b>19. SLANT</b> VERTICAL <input type="checkbox"/> DIRECTIONAL <input checked="" type="checkbox"/> HORIZONTAL <input type="checkbox"/>			
<b>20. LOCATION OF WELL</b>		<b>FOOTAGES</b>		<b>QTR-QTR</b>		<b>SECTION</b>	
<b>LOCATION AT SURFACE</b>		2473 FNL 2358 FWL		SENW		35	
<b>Top of Uppermost Producing Zone</b>		2210 FNL 2158 FWL		SENW		35	
<b>At Total Depth</b>		2210 FNL 2158 FWL		SENW		35	
<b>21. COUNTY</b> UNTAH		<b>22. DISTANCE TO NEAREST LEASE LINE (Feet)</b> 2158			<b>23. NUMBER OF ACRES IN DRILLING UNIT</b> 1083		
<b>27. ELEVATION - GROUND LEVEL</b> 5122		<b>25. DISTANCE TO NEAREST WELL IN SAME POOL (Applied For Drilling or Completed)</b> 361			<b>26. PROPOSED DEPTH</b> MD: 10661 TVD: 10640		
<b>28. BOND NUMBER</b> 		22013542			<b>29. SOURCE OF DRILLING WATER / WATER RIGHTS APPROVAL NUMBER IF APPLICABLE</b> Permit #43-8496		
<b>ATTACHMENTS</b>							
<b>VERIFY THE FOLLOWING ARE ATTACHED IN ACCORDANCE WITH THE UTAH OIL AND GAS CONSERVATION GENERAL RULES</b>							
<input checked="" type="checkbox"/> WELL PLAT OR MAP PREPARED BY LICENSED SURVEYOR OR ENGINEER		<input checked="" type="checkbox"/> COMPLETE DRILLING PLAN					
<input type="checkbox"/> AFFIDAVIT OF STATUS OF SURFACE OWNER AGREEMENT (IF FEE SURFACE)		<input type="checkbox"/> FORM 5. IF OPERATOR IS OTHER THAN THE LEASE OWNER					
<input checked="" type="checkbox"/> DIRECTIONAL SURVEY PLAN (IF DIRECTIONALLY OR HORIZONTALLY DRILLED)		<input checked="" type="checkbox"/> TOPOGRAPHICAL MAP					
<b>NAME</b> Danielle Piernot		<b>TITLE</b> Regulatory Analyst			<b>PHONE</b> 720 929-6156		
<b>SIGNATURE</b>		<b>DATE</b> 11/23/2010			<b>EMAIL</b> gnbregulatory@anadarko.com		
<b>API NUMBER ASSIGNED</b> 43047513560000		<b>APPROVAL</b>  Permit Manager					

**Proposed Hole, Casing, and Cement**

<b>String</b>	<b>Hole Size</b>	<b>Casing Size</b>	<b>Top (MD)</b>	<b>Bottom (MD)</b>	
Prod	7.875	4.5	0	10661	
Pipe	<b>Grade</b>	<b>Length</b>	<b>Weight</b>		
	Grade HCP-110 LT&C	10661	11.6		

**Proposed Hole, Casing, and Cement**

<b>String</b>	<b>Hole Size</b>	<b>Casing Size</b>	<b>Top (MD)</b>	<b>Bottom (MD)</b>		
Surf	12.25	9.625	0	2630		
<b>Pipe</b>	<b>Grade</b>	<b>Length</b>	<b>Weight</b>			
	Grade J-55 LT&C	2630	36.0			

**Kerr-McGee Oil & Gas Onshore. L.P.****NBU 921-35F4BS**

Surface:	2473 FNL / 2358 FWL	SENW
BHL:	2210 FNL / 2158 FWL	SENW

Section 35 T9S R21E

Unitah County, Utah

Mineral Lease: ST UT UO 01194 ST

**ONSHORE ORDER NO. 1****DRILLING PROGRAM**

1. & 2. Estimated Tops of Important Geologic Markers:  
Estimated Depths of Anticipated Water, Oil, Gas, or Mineral Formations:

<u>Formation</u>	<u>Depth</u>	<u>Resource</u>
Uinta	0 - Surface	
Green River	1505	
Birds Nest	1804	Water
Mahogany	2184	Water
Wasatch	4781	Gas
Mesaverde	7534	Gas
MVU2	8421	Gas
MVL1	8979	Gas
Sego*	9763	
Castlegate*	9765	
MN5*	10187	
TVD	10640	
TD	10661	

\* The Blackhawk formation is in the Mesaverde group

3. Pressure Control Equipment (Schematic Attached)

*Please refer to the attached Drilling Program*

4. Proposed Casing & Cementing Program:

*Please refer to the attached Drilling Program*

5. Drilling Fluids Program:

*Please refer to the attached Drilling Program*

**6. Evaluation Program:**

*Please refer to the attached Drilling Program*

**7. Abnormal Conditions:**

Maximum anticipated bottom hole pressure calculated at 10,640' TVD, approximately equals 7,071 psi (calculated at 0.66 psi/foot).

Maximum anticipated surface pressure equals approximately 4,730 psi (bottom hole pressure minus the pressure of a partially evacuated hole calculated at 0.22 psi/foot).

**8. Anticipated Starting Dates:**

*Drilling is planned to commence immediately upon approval of this application.*

**9. Variances:**

*Please refer to the attached Drilling Program.*

*Onshore Order #2 – Air Drilling Variance*

*Kerr-McGee Oil & Gas Onshore LP (KMG) respectfully requests a variance to several requirements associated with air drilling outlined in Onshore Order 2*

- *Blowout Prevention Equipment (BOPE) requirements;*
- *Mud program requirements; and*
- *Special drilling operation (surface equipment placement) requirements associated with air drilling.*

*This Standard Operating Practices addendum provides supporting information as to why KMG current air drilling practices for constructing the surface casing hole should be granted a variance to Onshore Order 2 air drilling requirements.*

*The reader should note that the air rig is used only to construct a stable surface casing hole through a historically difficult lost circulation zone. A conventional rotary rig follows the air rig, and is used to drill and construct the majority of the wellbore.*

*More notable, KMG has used the air rig layout and procedures outlined below to drill the surface casing hole in approximately 675 wells without incident of blow out or loss of life.*

***Background***

*In a typical well, KMG utilizes an air rig for drilling the surface casing hole, an interval from the surface to surface casing depths, which varies in depth from 1,700 to 2,800 feet. The air rig drilling operation does not drill through productive or over pressured formations in KMG field, but does penetrate the Uinta and Green River Formations. The purpose of the air drilling operation is to overcome the severe loss circulation zone in the Green River known as the Bird's Nest while creating a stable hole for the surface casing. The surface casing hole is generally drilled to approximately 500 feet below the Bird's Nest.*

*Before the surface air rig is mobilized, a rathole rig is utilized to set and cement conductor pipe through a competent surface formation. Generally, the conductor is set at 40 feet. In some cases, conductor may be set deeper in areas that the surface formation is not found competent. This rig also drills the rat and*

*The air rig is then mobilized to drill the surface casing hole by drilling a 11 inch hole to just above the Bird's Nest interval with an air hammer. The hammer is then tripped and replaced with a 12-1/4 inch tri-cone bit. The tri-cone bit is used to drill to the surface casing point, approximately 500 feet below the loss circulation zone (Bird's Nest). The 9-5/8 inch surface casing is then run and cemented in place, thereby isolating the lost circulation zone.*

*KMG fully appreciates Onshore Order 2 well control and safety requirements associated with a typical air drilling operations. However, the requirements of Onshore Order 2 are excessive with respect to the air rig layout and drilling operation procedures that are currently in practice to drill and control the surface casing hole in KMG Fields.*

#### **Variance for BOPE Requirements**

*The air rig operation utilizes a properly lubricated and maintained air bowl diverter system which diverts the drilling returns to a six-inch blooie line. The air bowl is the only piece of BOPE equipment which is installed during drilling operations and is sufficient to contain the air returns associated with this drilling operation. As was discussed earlier, the drilling of the surface hole does not encounter any over pressured or productive zones, and as a result standard BOPE equipment should not be required. In addition, standard drilling practices do not support the use of BOPE on 40 feet of conductor pipe.*

#### **Variance for Mud Material Requirements**

*Onshore Order 2 also states that sufficient quantities of mud materials shall be maintained or readily accessible for the purpose of assuring adequate well control. Once again, the surface hole drilling operations does not encounter over pressured or productive intervals, and as a result there is not a need to control pressure in the surface hole with a mud system. Instead of mud, the air rigs utilize water from the reserve pit for well control, if necessary. A skid pump which is located near the reserve pit (see attachment) will supply the water to the well bore.*

#### **Variance for Special Drilling Operation (surface equipment placement) Requirements**

*Onshore Order 2 requires specific safety distances or setbacks for the placement of associated standard air drilling equipment, wellbore, and reserve pits. The air rigs used to drill the surface holes are not typical of an air rig used to drill a producing hole in other parts of the US. These are smaller in nature and designed to fit a KMG location. The typical air rig layout for drilling surface hole in the field is attached.*

*Typically the blooie line discharge point is required to be 100 feet from the well bore. In the case of a KMG well, the reserve pit is only 45 feet from the rig and is used for the drill cuttings. The blooie line, which transports the drill cuttings from the well to the reserve pit, subsequently discharges only 45 feet from the well bore.*

*Typically the air rig compressors are required to be located in the opposite direction from the blooie line and a minimum of 100 feet from the well bore. At the KMG locations, the air rig compressors are approximately 40 feet from the well bore and approximately 60 feet from the blooie line discharge due to the unique air rig design. The air compressors (see attachment) are located on the rig (1250 cfm) and on a standby trailer (1170 cfm). A booster sits between the two compressors and boosts the output from 350 psi to 2000 psi. The design does put the booster and standby compressor opposite from the blooie line.*

*Lastly, Onshore Order 2 addresses the need for an automatic igniter or continuous pilot light on the blooie line. The air rig does not utilize an igniter as the surface hole drilling operation does not encounter productive formations.*

***Conclusion***

*The air rig operating procedures and the attached air rig layout have effectively maintained well control while drilling the surface holes in KMG Fields. KMG respectfully requests a variance from Onshore Order 2 with respect to air drilling well control requirements as discussed above.*

**10. Other Information:**

*Please refer to the attached Drilling Program.*



**KERR-McGEE OIL & GAS ONSHORE LP**  
**DRILLING PROGRAM**

COMPANY NAME	KERR-MCGEE OIL & GAS ONSHORE LP			DATE	November 18, 2010				
WELL NAME	<b>NBU 921-35F4BS</b>			TD	10,640'	TVD			
FIELD	Natural Buttes			COUNTY	Uintah	STATE	Utah	FINISHED ELEVATION	5,120'
SURFACE LOCATION	SENW	2473 FNL	2358 FWL	Sec 35	T 9S	R 21E			
	Latitude: 39.993017			Longitude: -109.519208			NAD 27		
BTM HOLE LOCATION	SENW	2210 FNL	2158 FWL	Sec 35	T 9S	R 21E			
	Latitude: 39.993741			Longitude: -109.51993			NAD 27		
OBJECTIVE ZONE(S)	Wasatch/Mesaverde								
ADDITIONAL INFO	Regulatory Agencies: UDOGM (Minerals), UDOGM (Surface), UDOGM Tri-County Health Dept.								

GEOLOGICAL			MECHANICAL		
LOGS	FORMATION TOPS	DEPTH	HOLE SIZE	CASING SIZE	MUD WEIGHT
		40'		14"	
			12.25"	9-5/8", 36#, IJ-55, LTC	Air mist
<p>All water flows encountered while drilling will be reported to the appropriate agencies.</p>					
<p>Green River @ 1,505'      Top of Birds Nest @ 1,804'      Mahogany @ 2,184'</p>					
<p>Preset f/ GL @      2,630' MD</p>					
<p>Note: 11" surface hole will usually be drilled ±400' below the lost circulation zone (aka bird's nest). Drilled depth may be ±200' of the estimated set depth depending on the actual depth of the loss zone.</p>					
<p>Wasatch @ 4,781'</p>					
<p>Mud logging program TBD      Cased hole logging program from TD - surf csg</p>					
<p>7-7/8" 4-1/2" 11.6# HCP-110 or equivalent BTC/LTC csg Water / Fresh</p>					
<p>Mverde @ 7,534' TVD</p>					
<p>MVU2 @ 8,421' TVD</p>					
<p>MVU1 @ 8,979' TVD</p>					
<p>Sego @ 9,763' TVD</p>					
<p>Castlegate @ 9,765' TVD</p>					
<p>MN5 @ 10,187' TVD</p>					
<p>Max anticipated Mud required 13.0 ppg TD @ 10,640' TVD 10,661' MD</p>					



**KERR-MCGEE OIL & GAS ONSHORE LP**  
DRILLING PROGRAM

CASING PROGRAM

	SIZE	INTERVAL	WT.	GR.	CPLG.	DESIGN FACTORS		
						BURST	COLLAPSE	TENSION
CONDUCTOR	14"	0-40'				3,520	2,020	453,000
SURFACE	9-5/8"	0 to 2,630'	36.00	IJ-55	LTC	0.72	1.64	6.09
PRODUCTION	4-1/2"	0 to 10,661'	11.60	HCP-110	BTC	10,690 4.56	8,650 1.20	367,000 3.70

\*Burst on surface casing is controlled by fracture gradient as shoe with gas gradient above.

D.F. = 2.12

1) Max Anticipated Surf. Press.(MASP) (Surface Casing) = (Pore Pressure at next csg point-(0.22 psi/ft-partial evac gradient x TVD of next csg point))

2) MASP (Prod Casing) = Pore Pressure at TD - (0.22 psi/ft-partial evac gradient x TD)

(Burst Assumptions: TD = 13.0 ppg)

0.22 psi/ft = gradient for partially evac wellbore

(Collapse Assumption: Fully Evacuated Casing, Max MW)

(Tension Assumptions: Air Weight of Casing\*Buoy.Fact. of water)

**MASP 4,730 psi**

3) Maximum Anticipated Bottom Hole Pressure (MABHP) = Pore Pressure at TD

(Burst Assumptions: TD = 13.0 ppg)

0.66 psi/ft = bottomhole gradient

(Collapse Assumption: Fully Evacuated Casing, Max MW)

(Tension Assumptions: Air Weight of Casing\*Buoy.Fact. of water)

**MABHP 7,071 psi**

CEMENT PROGRAM

	FT. OF FILL	DESCRIPTION	SACKS	EXCESS	WEIGHT	YIELD
SURFACE	LEAD	500' Premium cmt + 2% CaCl + 0.25 pps flocele	220	60%	15.80	1.15
<b>Option 1</b>	TOP OUT CMT (6 jobs)	1,200' 20 gals sodium silicate + Premium cmt + 2% CaCl + 0.25 pps flocele	330	0%	15.80	1.15
SURFACE	LEAD	<b>NOTE: If well will circulate water to surface, option 2 will be utilized</b>				
<b>Option 2</b>	TAIL	2,130' 65/35 Poz + 6% Gel + 10 pps gilsonite + 0.25 pps Flocele + 3% salt BWOW	240	35%	11.00	3.82
	TOP OUT CMT	500' Premium cmt + 2% CaCl + 0.25 pps flocele	190	35%	15.80	1.15
PRODUCTION	LEAD	as required Premium cmt + 2% CaCl	as req.		15.80	1.15
	4,281'	Premium Lite II + 3% KCl + 0.25 pps celoflake + 5 pps gilsonite + 10% gel + 0.5% extender	320	20%	11.00	3.38
	6,380'	50/50 Poz/G + 10% salt + 2% gel + 0.1% R-3	1,340	20%	14.30	1.31

\*Substitute caliper hole volume plus 0% excess for LEAD if accurate caliper is obtained

\*Substitute caliper hole volume plus 10% excess for TAIL if accurate caliper is obtained

FLOAT EQUIPMENT & CENTRALIZERS

SURFACE	Guide shoe, 1 jt, insert float. Centralize first 3 joints with bow spring centralizers. Thread lock guide shoe
PRODUCTION	Float shoe, 1 jt, float collar. No centralizers will be used.

ADDITIONAL INFORMATION

Test casing head to 750 psi after installing. Test surface casing to 1,500 psi prior to drilling out.

BOPE: 11" 5M with one annular and 2 rams. The BOPE will be installed before the production hole is drilled and tested to 5,000 psi (annular to 2,500 psi) prior to drilling out the surface casing shoe. Record on chart recorder and tour sheet. Function test rams on each trip. Maintain safety valve and inside BOP on rig floor at all times. Most rigs have top drives; however, if used, the Kelly is to be equipped with upper and lower kelly valves.

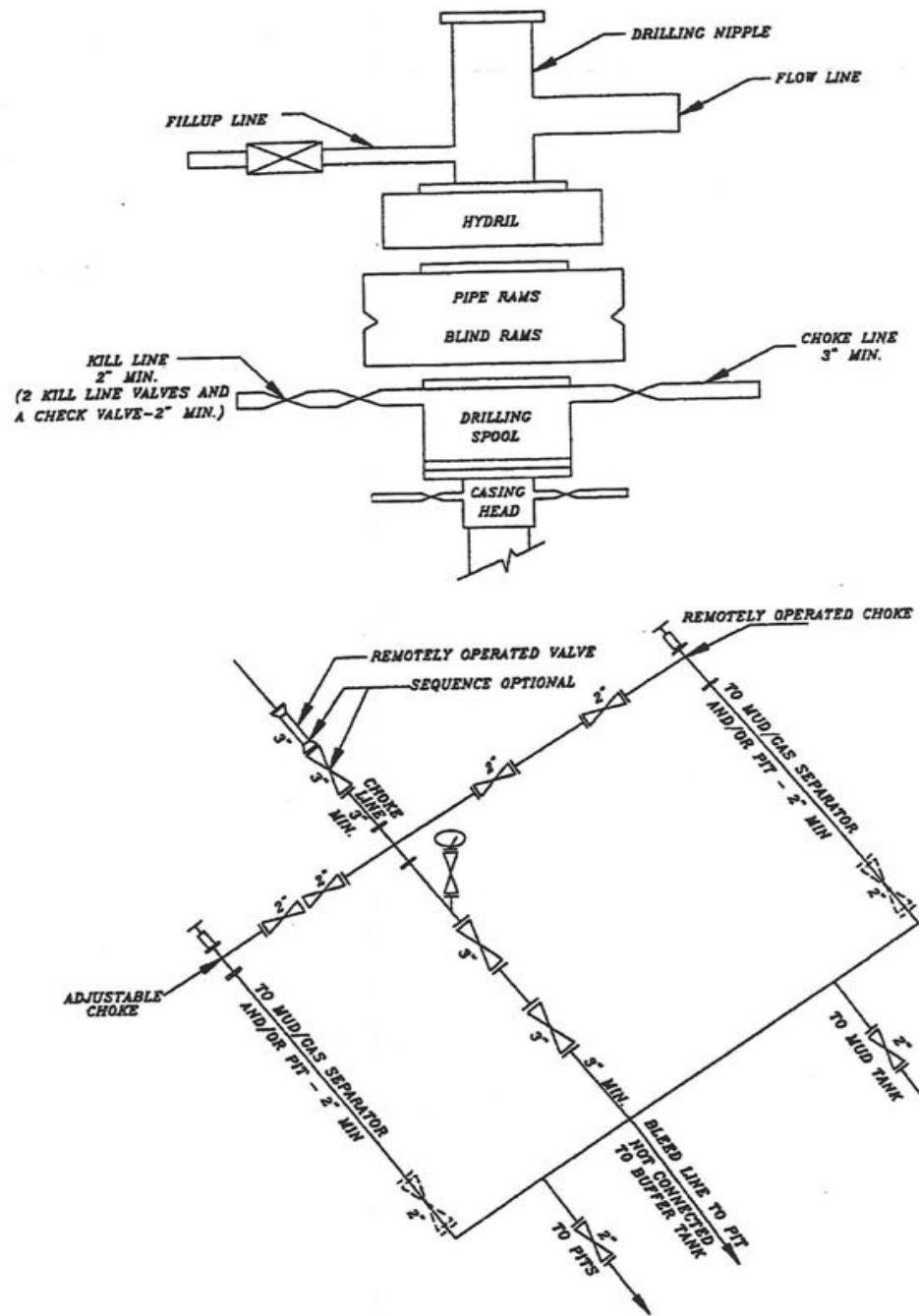
Surveys will be taken at 1,000' minimum intervals.

Most rigs have PVT System for mud monitoring. If no PVT is available, visual monitoring will be utilized.

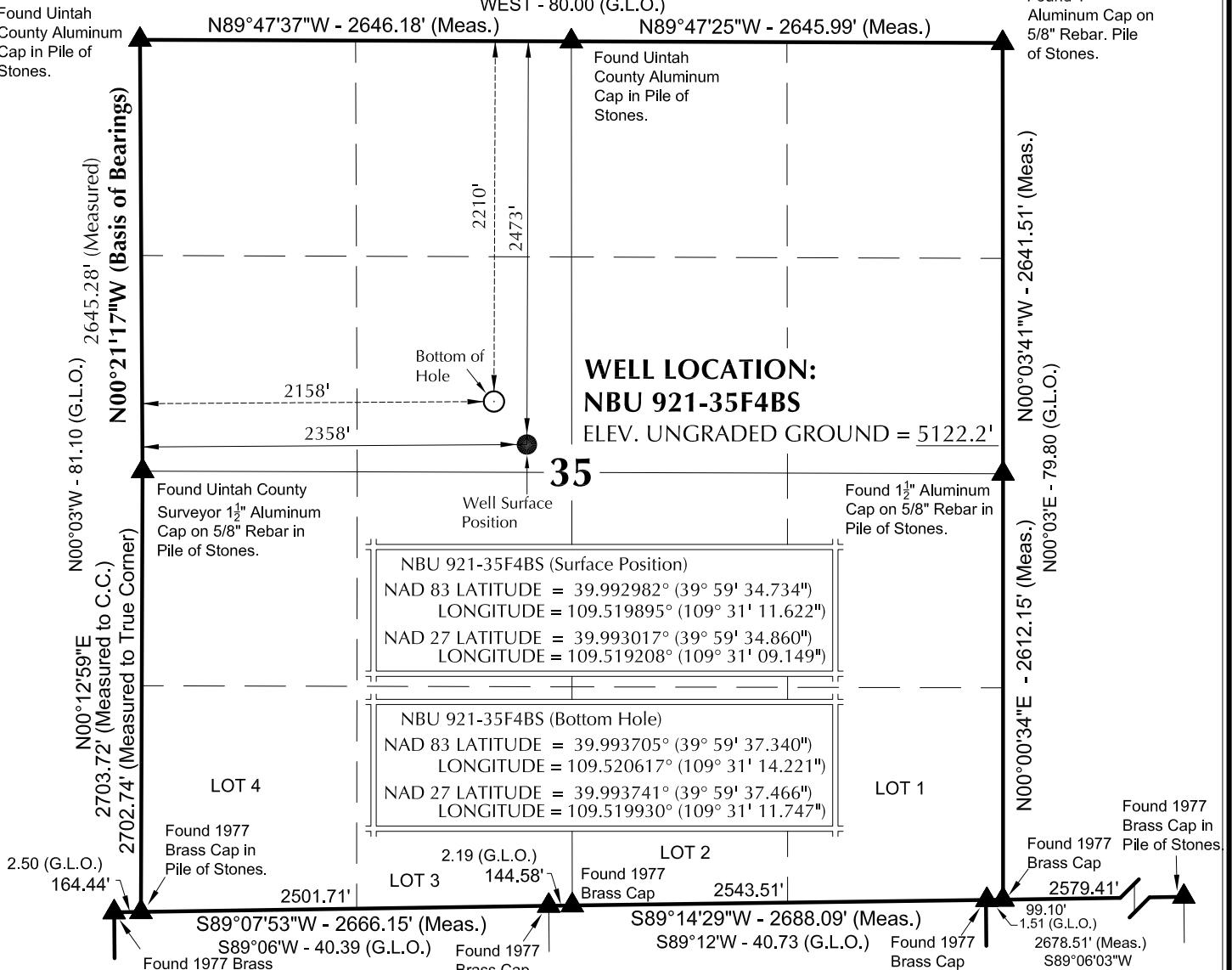
**DRILLING ENGINEER:** John Huycke / Emile Goodwin

**DRILLING SUPERINTENDENT:** John Merkel / Lovel Young

**EXHIBIT A**  
**NBU 921-35F4BS**



**SCHEMATIC DIAGRAM OF 5,000 PSI BOP STACK**

**T9S, R21E, S.L.B.&M.**

1. Well footages are measured at right angles to the Section Lines.
2. G.L.O. distances are shown in feet or chains.  
1 chain = 66 feet.
3. The Bottom of hole bears N37°27'03"W 332.41' from the Surface Position.
4. Bearings are based on Global Positioning Satellite observations.
5. Basis of elevation is Tri-Sta "Two Water" located in the NW  $\frac{1}{4}$  of Section 1, T10S, R21E, S.L.B.&M. The elevation of this Tri-Sta is shown on the Big Pack Mtn NE 7.5 Min. Quadrangle as being 5238'.

**Kerr-McGee Oil & Gas Onshore, LP**  
1099 18th Street - Denver, Colorado 80202

**WELL PAD: NBU 921-35F4**

**NBU 921-35F4BS**  
**WELL PLAT**

**2210' FNL, 2158' FWL (Bottom Hole)**  
**SE  $\frac{1}{4}$  NW  $\frac{1}{4}$  OF SECTION 35, T9S, R21E,**  
**S.L.B.&M., UNTAH COUNTY, UTAH.**



**CONSULTING, LLC**  
2155 North Main Street  
Sheridan WY 82801  
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**TIMBERLINE**

ENGINEERING & LAND SURVEYING, INC.  
209 NORTH 300 WEST - VERNAL, UTAH 84078

(435) 789-1365

**4**  
4 OF 16

1000'  
500'  
0'  
1000'

**SCALE**

**SURVEYOR'S CERTIFICATE**

THIS IS TO CERTIFY THAT THE ABOVE PLAT WAS PREPARED FROM FIELD NOTES OF ACTUAL SURVEYS MADE BY ME OR UNDER MY SUPERVISION AND THAT THE SAME ARE TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.

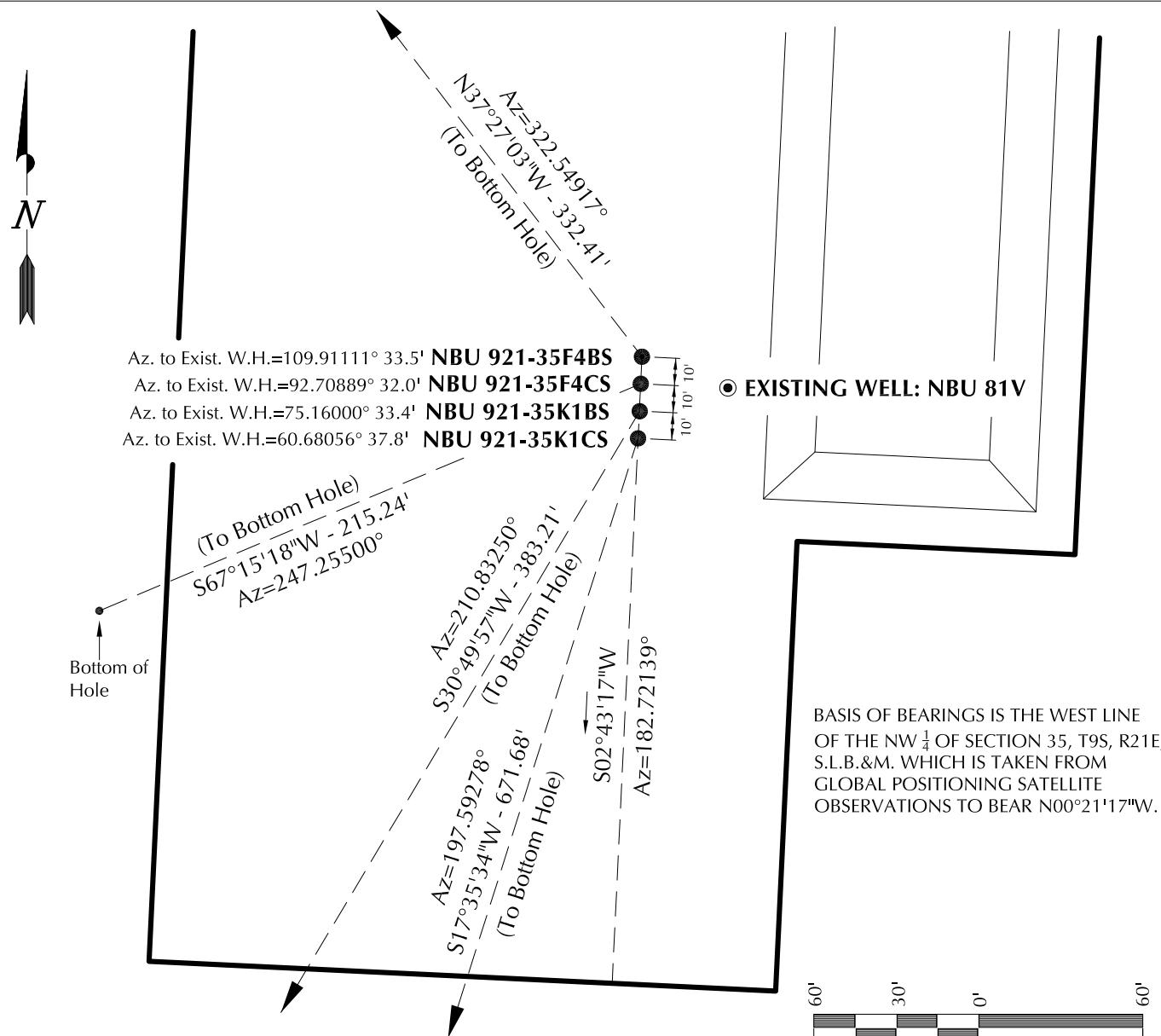
No.6028691  
JOHN R.  
LAUGH  
PROFESSIONAL LAND SURVEYOR  
REGISTRATION NO. 6028691  
STATE OF UTAH

**STATE OF UTAH**

WELL NAME	SURFACE POSITION						BOTTOM HOLE					
	NAD83		NAD27		FOOTAGES	NAD83		NAD27		FOOTAGES		
	LATITUDE	LONGITUDE	LATITUDE	LONGITUDE		LATITUDE	LONGITUDE	LATITUDE	LONGITUDE			
NBU 921-35K1CS	39°59'34.438"	109°31'11.640"	39°59'34.564"	109°31'09.167"	2503' FNL	39°59'28.111"	109°31'14.243"	39°59'28.237"	109°31'11.769"	2163' FSL		
	39.992900°	109.519900°	39.992935°	109.519213°	2357' FWL	39.991142°	109.520623°	39.991177°	109.519936°	2155' FWL		
NBU 921-35K1BS	39°59'34.536"	109°31'11.633"	39°59'34.663"	109°31'09.159"	2493' FNL	39°59'31.284"	109°31'14.153"	39°59'31.410"	109°31'11.679"	2484' FSL		
	39.992927°	109.519898°	39.992962°	109.519211°	2358' FWL	39.992023°	109.520598°	39.992058°	109.519911°	2161' FWL		
NBU 921-35F4CS	39°59'34.636"	109°31'11.628"	39°59'34.762"	109°31'09.154"	2483' FNL	39°59'33.812"	109°31'14.177"	39°59'33.939"	109°31'11.703"	2567' FNL		
	39.992954°	109.519897°	39.992989°	109.519209°	2358' FWL	39.992726°	109.520605°	39.992761°	109.519918°	2159' FWL		
NBU 921-35F4BS	39°59'34.621"	109°31'11.622"	39°59'34.860"	109°31'09.149"	2473' FNL	39°59'37.340"	109°31'14.221"	39°59'37.466"	109°31'11.747"	2210' FNL		
	39.992982°	109.519895°	39.993017°	109.519208°	2358' FWL	39.993705°	109.520617°	39.993741°	109.519930°	2158' FWL		
NBU 81V	39°59'34.621"	109°31'11.218"	39°59'34.747"	109°31'08.744"	2484' FNL							
	39.992950°	109.519783°	39.992985°	109.519096°	2390' FWL							

## RELATIVE COORDINATES - From Surface Position to Bottom Hole

WELL NAME	NORTH	EAST	WELL NAME	NORTH	EAST	WELL NAME	NORTH	EAST	WELL NAME	NORTH	EAST
NBU 921-35K1CS	-640.3'	-203.0'	NBU 921-35K1BS	-329.1'	-196.4'	NBU 921-35F4CS	-83.2'	-198.5'	NBU 921-35F4BS	263.9'	-202.1'



Kerr-McGee Oil & Gas Onshore, LP  
1099 18th Street - Denver, Colorado 80202

WELL PAD - NBU 921-35F4

WELL PAD INTERFERENCE PLAT  
WELLS - NBU 921-35K1CS, NBU 921-35K1BS,  
NBU 921-35F4CS & NBU 921-35F4BS  
LOCATED IN SECTION 35, T9S, R21E,  
S.L.B.&M., UNTAH COUNTY, UTAH.



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209 NORTH 300 WEST - VERNAL, UTAH 84078

(435) 789-1365

DATE SURVEYED:  
10-01-10

SURVEYED BY: M.S.B.

SHEET NO:

DATE DRAWN:  
10-07-10

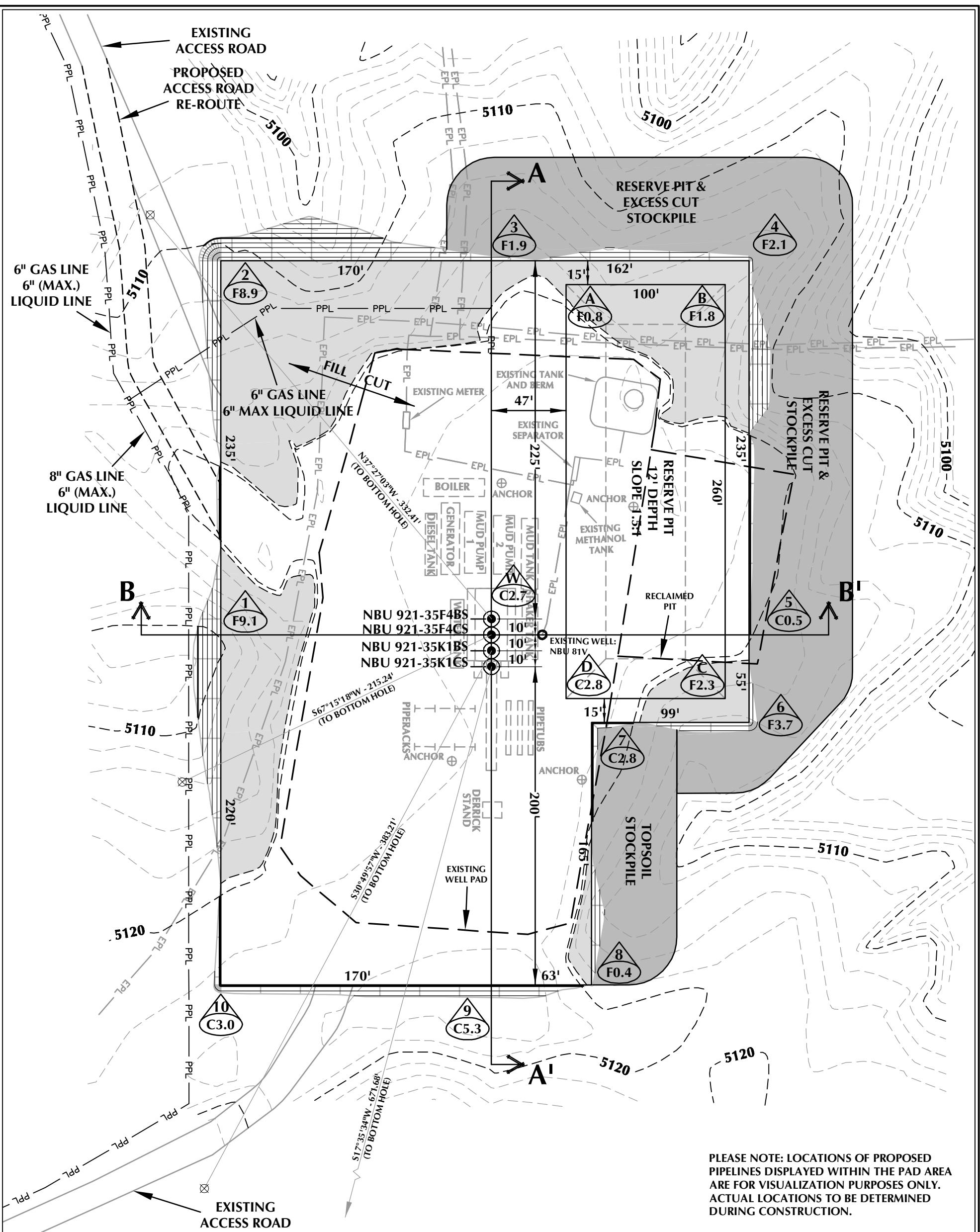
DRAWN BY: E.M.S.

5

SCALE: 1" = 60'

Date Last Revised:  
12-03-10 M.W.W.

5 OF 16



WELL PAD - NBU 921-35F4 DESIGN SUMMARY

**EXISTING GRADE @ CENTER OF WELL PAD = 5122.2  
FINISHED GRADE ELEVATION = 5119.5'  
CUT SLOPES = 1.5:1  
FILL SLOPES = 1.5:1  
TOTAL WELL PAD AREA = 3.34 ACRES  
TOTAL DAMAGE AREA = 6.00 ACRES  
SHRINKAGE FACTOR = 1.10  
SWELL FACTOR = 1.00**

**Kerr-McGee Oil & Gas Onshore, LP**

**WELL PAD - NBLI 921-35E4**

**WELL PAD - LOCATION LAYOUT  
NBU 921-35K1CS, NBU 921-35K1BS,  
NBU 921-35F4CS & NBU 921-35F4BS  
LOCATED IN SECTION 35, T9S, R21E,**



**CONSULTING, LLC**  
2155 North Main Street  
Sheridan, WY 82801  
Phone 307-674-0609  
Fax 307-674-2182

## **WELL PAD QUANTITIES**

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**TOTAL CUT FOR WELL PAD = 8,631 C.Y.  
TOTAL FILL FOR WELL PAD = 6,601 C.Y.  
TOPSOIL @ 6" DEPTH = 1,445 C.Y.  
EXCESS MATERIAL = 2,030 C.Y.**

## **RESERVE PIT QUANTITIES**

**TOTAL CUT FOR RESERVE PIT  
+/- 8,870 CY  
RESERVE PIT CAPACITY (2' OF FREEBOARD)  
+/- 33,770 BARRELS**

#### WELL PAD LEGEND

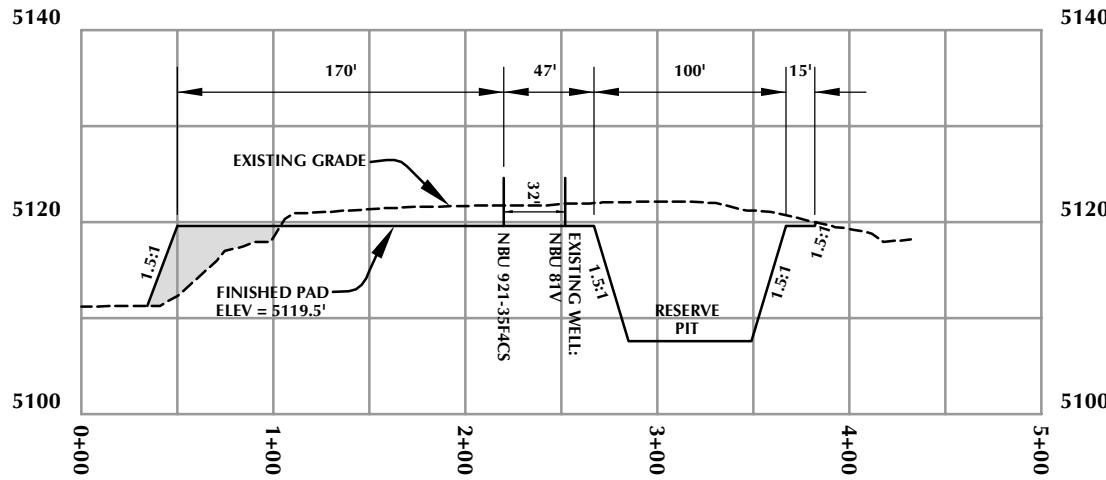
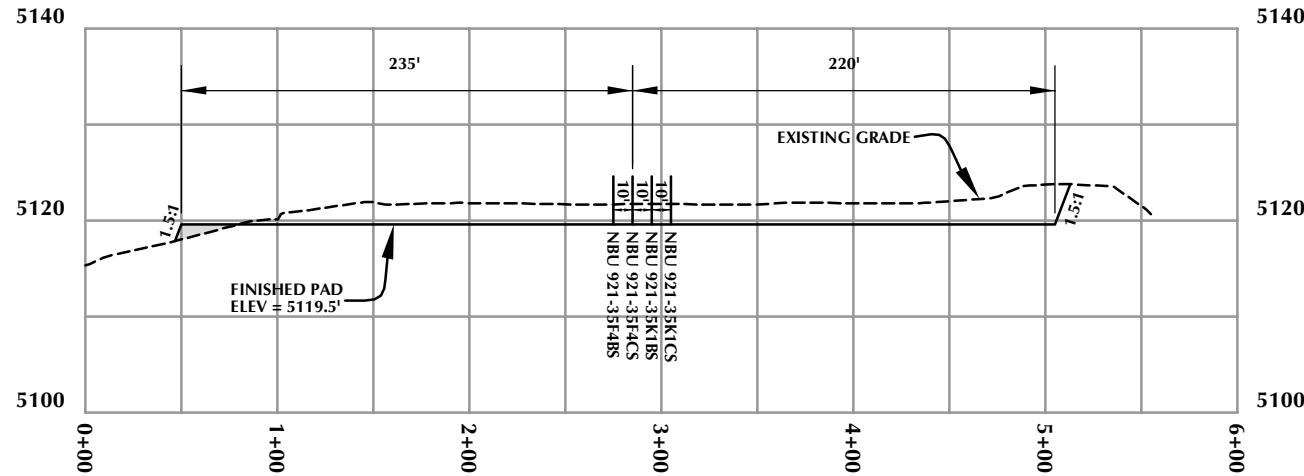
-  EXISTING WELL LOCATION  
 PROPOSED WELL LOCATION  
 PROPOSED BOTTOM HOLE LOCATION  
 EXISTING CONTOURS (2' INTERVAL)  
 PROPOSED CONTOURS (2' INTERVAL)  
 PROPOSED PIPELINE  
 EXISTING PIPELINE



**HORIZONTAL** 0 30 60 1" = 60'  
2' CONTOURS

Scale: 1"=60'	Date: 10/19/10	SHEET NO: 6
---------------	----------------	----------------

**TIMBERLINE** (435) 789-13  
ENGINEERING & LAND SURVEYING, INC.  
209 NORTH 300 WEST - VERNAL, UTAH 84078



Kerr-McGee Oil & Gas Onshore, LP  
1099 18th Street - Denver, Colorado 80202

WELL PAD - NBU 921-35F4

WELL PAD - CROSS SECTIONS  
NBU 921-35K1CS, NBU 921-35K1BS,  
NBU 921-35F4CS & NBU 921-35F4BS  
LOCATED IN SECTION 35, T9S, R21E,  
S.L.B.&M., UNTAH COUNTY, UTAH



CONSULTING, LLC  
2155 North Main Street  
Sheridan, WY 82801  
Phone 307-674-0609  
Fax 307-674-0182

TIMBERLINE  
ENGINEERING & LAND SURVEYING, INC.  
(435) 789-1365  
209 NORTH 300 WEST - VERNAL, UTAH 84078

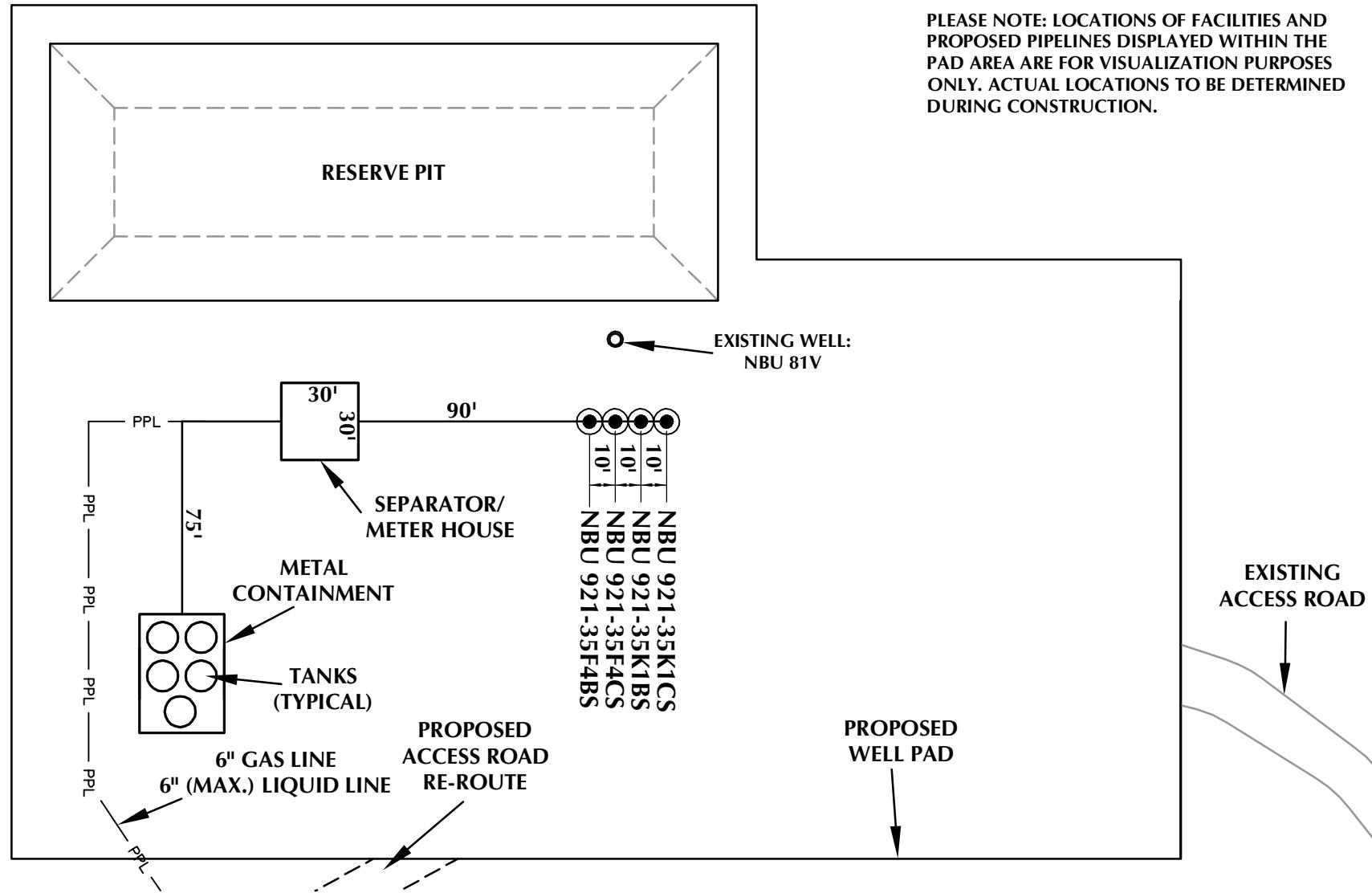
HORIZONTAL 0 50 100 1" = 100'  
VERTICAL 0 10 20 1" = 20'

Scale: 1"=100' Date: 10/15/10

REVISED:

SHEET NO:  
**7**  
7 OF 16

PLEASE NOTE: LOCATIONS OF FACILITIES AND PROPOSED PIPELINES DISPLAYED WITHIN THE PAD AREA ARE FOR VISUALIZATION PURPOSES ONLY. ACTUAL LOCATIONS TO BE DETERMINED DURING CONSTRUCTION.



Kerr-McGee Oil & Gas Onshore, LP  
1099 18th Street - Denver, Colorado 80202

WELL PAD - NBU 921-35F4

WELL PAD - FACILITIES DIAGRAM  
NBU 921-35K1CS, NBU 921-35K1BS,  
NBU 921-35F4CS & NBU 921-35F4BS  
LOCATED IN SECTION 35, T9S, R21E,  
S.L.B.&M., UNTAH COUNTY, UTAH



CONSULTING, LLC  
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Sheridan, WY 82801  
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**TIMBERLINE**  
ENGINEERING & LAND SURVEYING, INC.  
209 NORTH 300 WEST - VERNAL, UTAH 84078  
(435) 789-1365

HORIZONTAL 0 30' 60' 1" = 60'



Scale: 1"=60'	Date: 10/19/10
REvised: 12/9/10	JFE

SHEET NO:  
**8** 8 OF 16

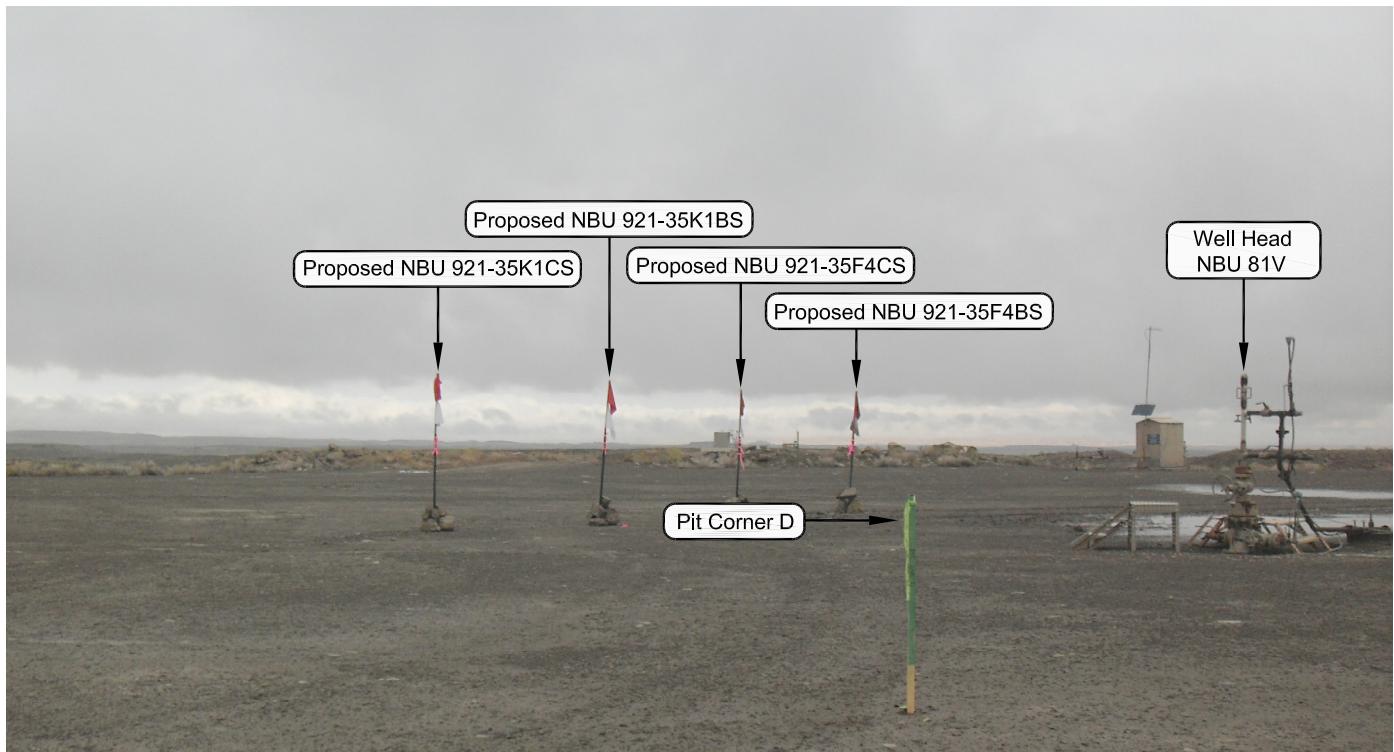


PHOTO VIEW: FROM PIT CORNER D TO LOCATION STAKE

CAMERA ANGLE: NORTHWESTERLY



PHOTO VIEW: FROM EXISTING ACCESS ROAD

CAMERA ANGLE: NORTHEASTERLY

**Kerr-McGee Oil & Gas Onshore, LP**  
1099 18th Street - Denver, Colorado 80202

**WELL PAD - NBU 921-35F4**

**LOCATION PHOTOS**

NBU 921-35K1CS, NBU 921-35K1BS,  
NBU 921-35F4CS & NBU 921-35F4BS  
LOCATED IN SECTION 35, T9S, R21E,  
S.L.B.&M., UNTAH COUNTY, UTAH.

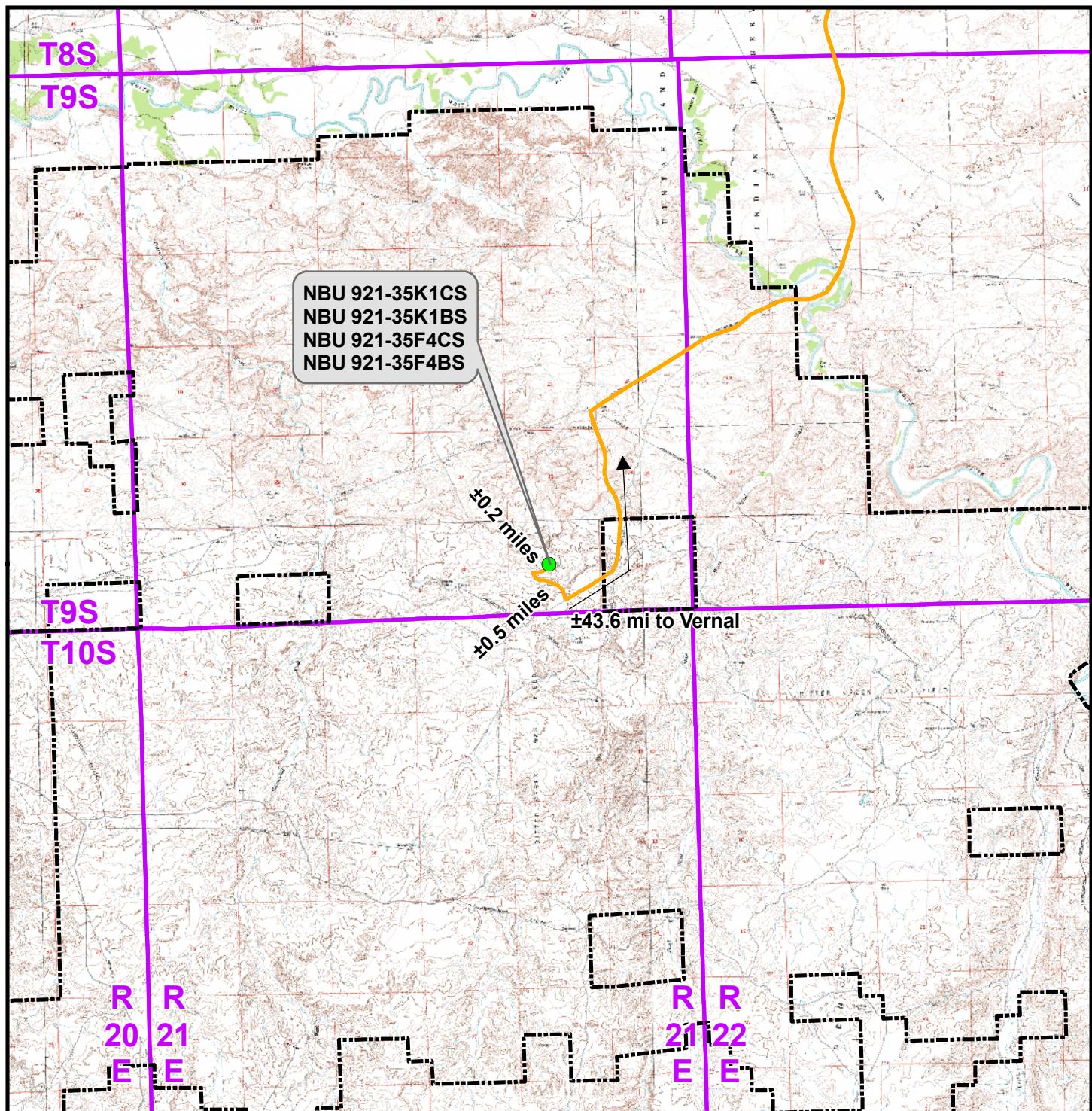


**CONSULTING, LLC**  
2155 North Main Street  
Sheridan WY 82801  
Phone 307-674-0609  
Fax 307-674-0182

**TIMBERLINE**

(435) 789-1365  
ENGINEERING & LAND SURVEYING, INC.  
209 NORTH 300 WEST - VERNAL, UTAH 84078

DATE PHOTOS TAKEN: 10-01-10	PHOTOS TAKEN BY: M.S.B.	SHEET NO:
DATE DRAWN: 10-07-10	DRAWN BY: B.M.	
Date Last Revised:		9 OF 16

**Legend**

- Proposed Well Location
- Natural Buttes Unit Boundary
- Access Route - Proposed

Distance From Well Pad - NBU 921-35F4 To Unit Boundary:  $\pm 2,921\text{ft}$

**Kerr-McGee Oil & Gas Onshore, LP**  
1099 18th Street, Denver, Colorado 80202

<b>WELL PAD - NBU 921-35F4</b>
--------------------------------

<b>TOPO A</b>
---------------

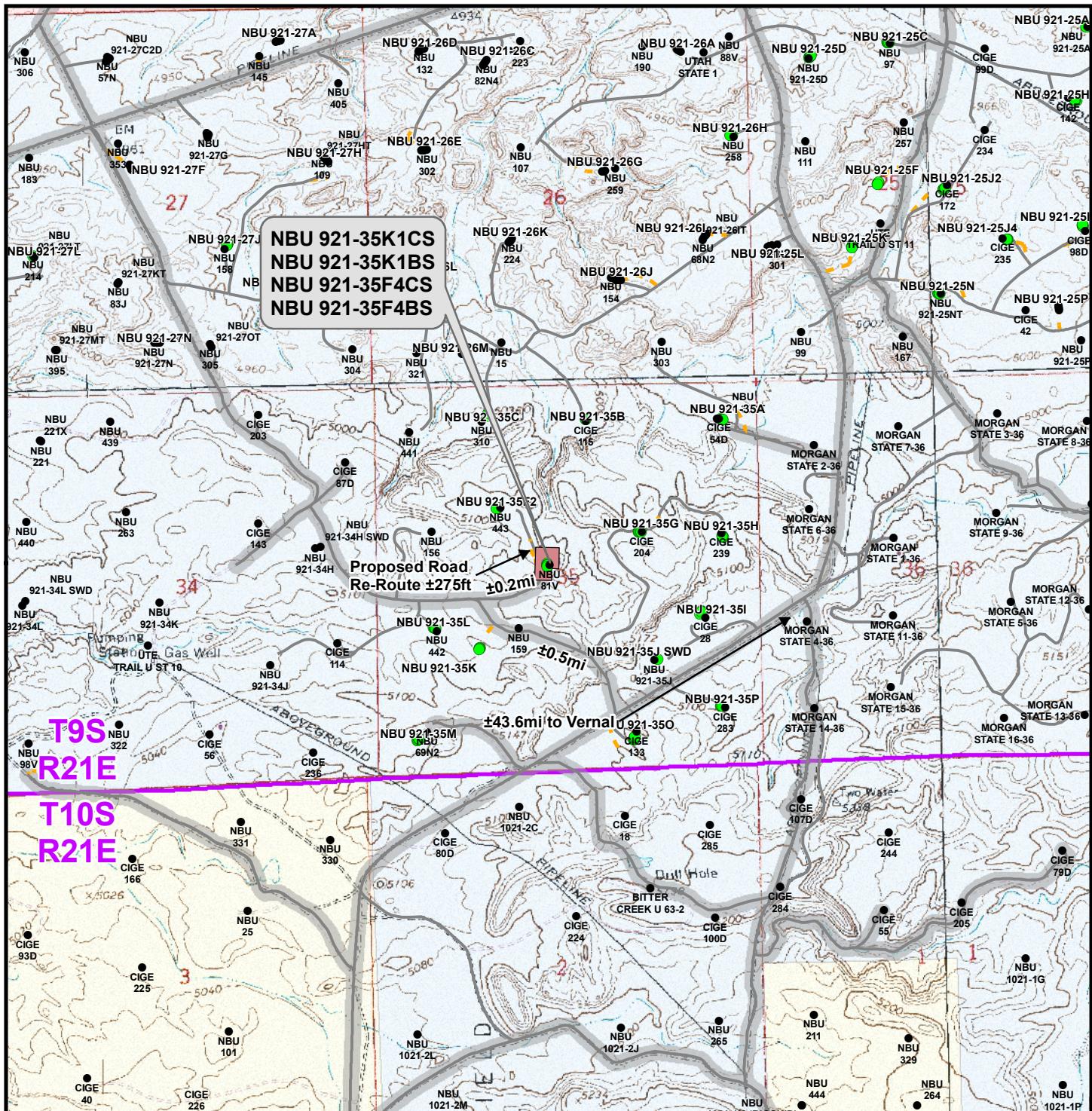
NBU 921-35K1CS, NBU 921-35K1BS,  
NBU 921-35F4CS & NBU 921-35F4BS  
LOCATED IN SECTION 35, T9S, R21E,  
S.L.B.&M., UNTAH COUNTY, UTAH



CONSULTING, LLC  
2155 North Main Street  
Sheridan, WY 82801  
Phone (307) 674-0609  
Fax (307) 674-0182



Scale: 1:100,000	NAD83 USP Central	Sheet No:
Drawn: TL	Date: 19 Oct 2010	10
Revised:	Date:	10 of 16

**Legend**

- Well - Proposed      ■ Well Pad      - - - Road - Proposed      ⚡ County Road
- Well - Existing      — Road - Existing
- Bureau of Land Management
- State
- Indian Reservation
- Private

Total Proposed Road Re-Route Length: ±275ft

**Kerr-McGee Oil & Gas Onshore, LP**  
1099 18th Street, Denver, Colorado 80202

**WELL PAD - NBU 921-35F4****TOPO B**

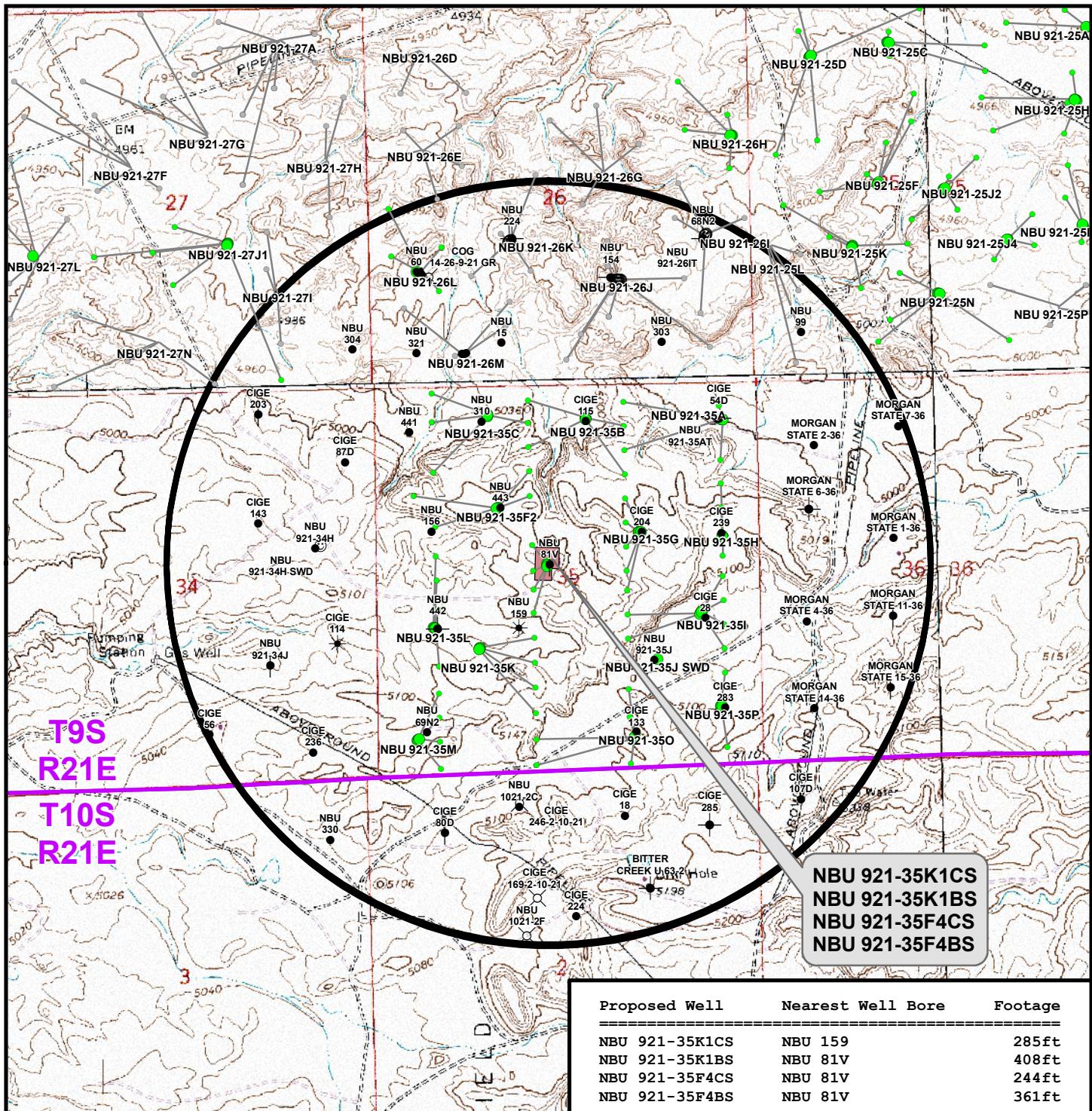
NBU 921-35K1CS, NBU 921-35K1BS,  
NBU 921-35F4CS & NBU 921-35F4BS  
LOCATED IN SECTION 35, T9S, R21E,  
S.L.B.&M., UNTAH COUNTY, UTAH

**609**  
CONSULTING, LLC  
2155 North Main Street  
Sheridan, WY 82801  
Phone (307) 674-0609  
Fax (307) 674-0182



Scale: 1" = 2,000ft      NAD83 USP Central  
Drawn: TL      Date: 19 Oct 2010  
Revised: TL      Date: 9 Dec 2010

Sheet No:  
**11**  
11 of 16

**Legend**

- Well - Proposed
- Bottom Hole - Proposed
- Well Pad
- Well Path
- Bottom Hole - Existing
- Well - 1 Mile Radius

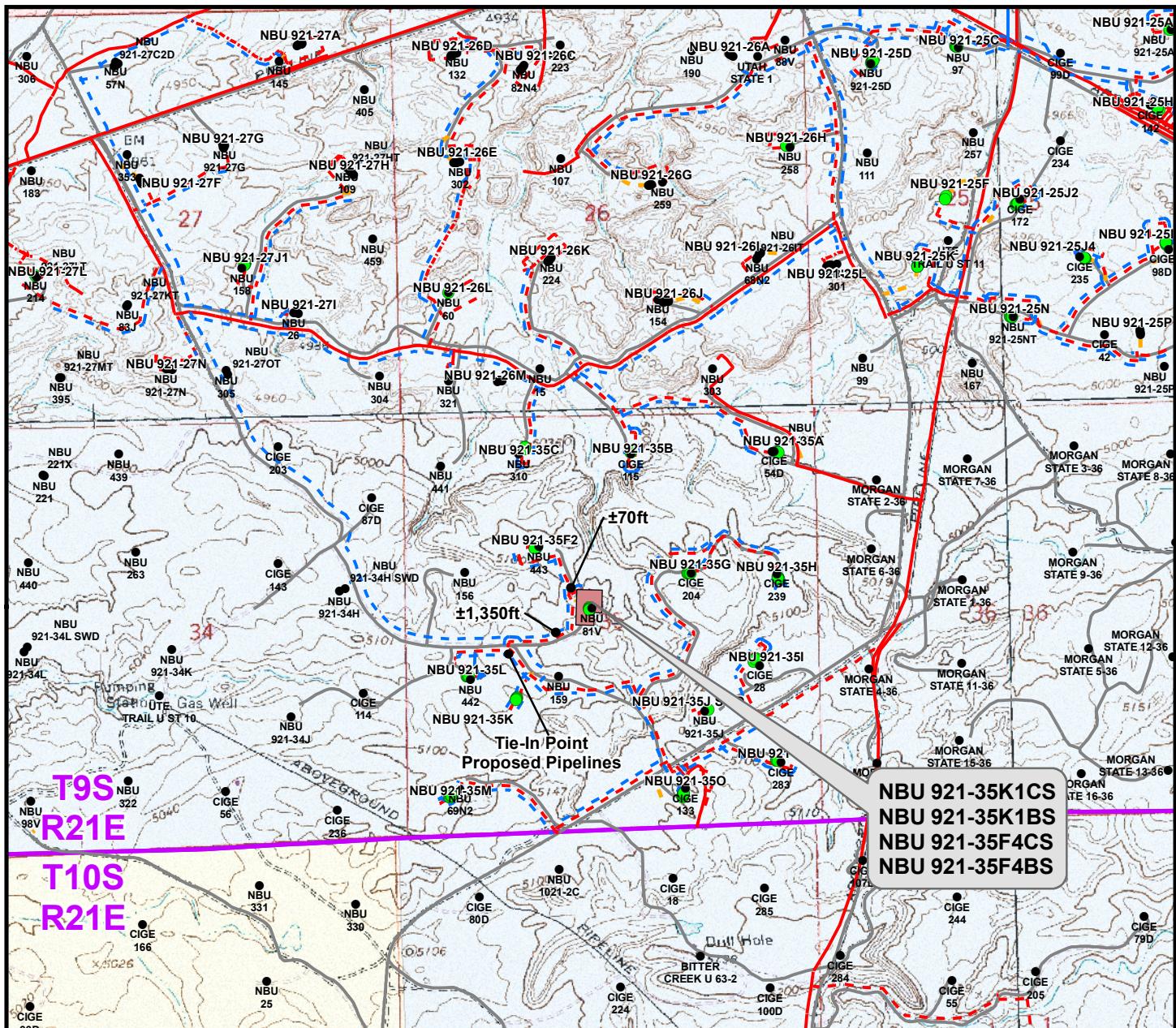
- Producing
- Temporarily-Abandoned
- Active
- Shut-In
- Spudded (Drilling commenced: Not yet completed)
- Approved permit (APD); not yet spudded
- New Permit (Not yet approved or drilled)
- Inactive
- Location Abandoned
- Dry hole marker, buried
- Returned APD (Unapproved)

**Kerr-McGee Oil & Gas Onshore, LP**  
1099 18th Street, Denver, Colorado 80202
**WELL PAD - NBU 921-35F4**

**TOPO C**  
**NBU 921-35K1CS, NBU 921-35K1BS,  
NBU 921-35F4CS & NBU 921-35F4BS  
LOCATED IN SECTION 35, T9S, R21E,  
S.L.B.&M., UNTAH COUNTY, UTAH**



Scale: 1" = 2,000ft NAD83 USP Central Sheet No:  
Drawn: TL Date: 19 Oct 2010 12  
Revised: TL Date: 9 Dec 2010 12 of 16



Proposed Liquid Pipeline	Length	Proposed Gas Pipeline	Length
Proposed 6" (Max.) (Meter House to Edge of Pad)	±270ft	Proposed 6" (Meter House to Edge of Pad)	±270ft
Proposed 6" (Max.) (Edge of Pad to 35F2 Intersection)	±70ft	Proposed 6" (Edge of Pad to 35F2 Intersection)	±70ft
Proposed 6" (Max.) (35F2 Intersection to 35L Intersection)	±1,350ft	Proposed 8" (35F2 Intersection to 35L Intersection)	±1,350ft
TOTAL PROPOSED LIQUID PIPELINE =	±1,690ft	TOTAL PROPOSED GAS PIPELINE =	±1,690ft

## Legend

- Well - Proposed    Well Pad    - - - Gas Pipeline - Proposed    - - - - Liquid Pipeline - Proposed    - - - - - Road - Proposed    Bureau of Land Management  
● Well - Existing    - - - - Gas Pipeline - To Be Upgraded    - - - - Liquid Pipeline - To Be Upgraded    — Road - Existing    Indian Reservation  
— Gas Pipeline - Existing    — Liquid Pipeline - Existing    State

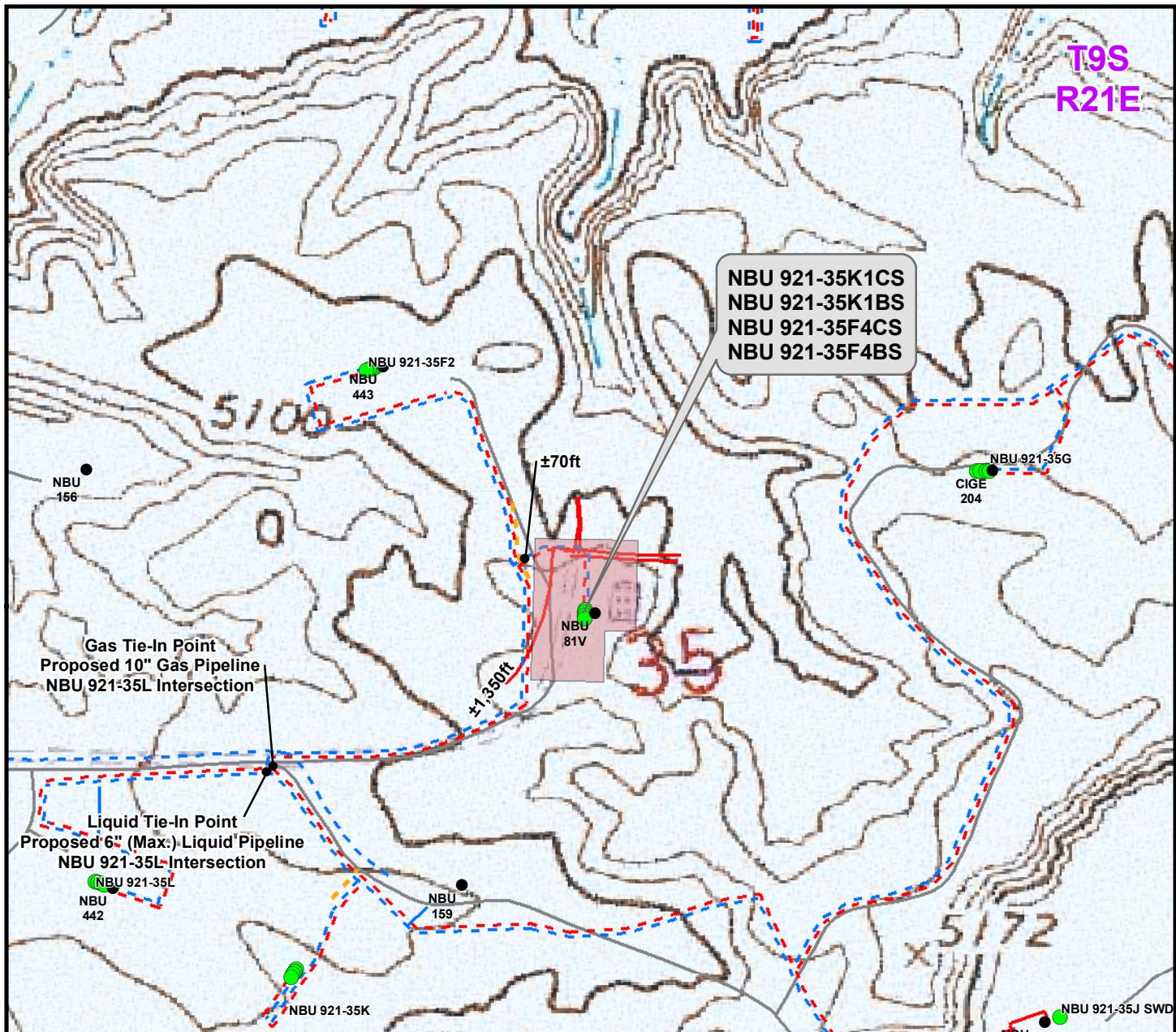
**Kerr-McGee Oil & Gas Onshore, LP**  
1099 18th Street, Denver, Colorado 80202



**CONSULTING, LLC**  
2155 North Main Street  
Sheridan, WY 82801  
Phone (307) 674-0609  
Fax (307) 674-0182



Scale: 1" = 2,000ft	NAD83 USP Central	Sheet No:
Drawn: TL	Date: 19 Oct 2010	13
Revised: TL	Date: 9 Dec 2010	



Proposed Liquid Pipeline	Length	Proposed Gas Pipeline	Length
Proposed 6" (Max.) (Meter House to Edge of Pad)	±270ft	Proposed 6" (Meter House to Edge of Pad)	±270ft
Proposed 6" (Max.) (Edge of Pad to 35F2 Intersection)	±70ft	Proposed 6" (Edge of Pad to 35F2 Intersection)	±70ft
Proposed 6" (Max.) (35F2 Intersection to 35L Intersection)	±1,350ft	Proposed 8" (35F2 Intersection to 35L Intersection)	±1,350ft
<b>TOTAL PROPOSED LIQUID PIPELINE =</b>			<b>±1,690ft</b>
<b>TOTAL PROPOSED GAS PIPELINE =</b>			<b>±1,690ft</b>

**Legend**

- Well - Proposed
- Well - Existing
- Well Pad
- Gas Pipeline - Proposed
- Gas Pipeline - To Be Upgraded
- Gas Pipeline - Existing
- Liquid Pipeline - Proposed
- Liquid Pipeline - To Be Upgraded
- Liquid Pipeline - Existing
- Road - Proposed
- Road - Existing
- Road - Existing
- Bureau of Land Management
- Indian Reservation
- State
- Private

**Kerr-McGee Oil & Gas Onshore, LP**  
1099 18th Street, Denver, Colorado 80202

**WELL PAD - NBU 921-35F4**

**TOPO D2 (PAD & PIPELINE DETAIL)**  
NBU 921-35K1CS, NBU 921-35K1BS,  
NBU 921-35F4CS & NBU 921-35F4BS  
LOCATED IN SECTION 35, T9S, R21E,  
S.L.B.&M., UNTAH COUNTY, UTAH



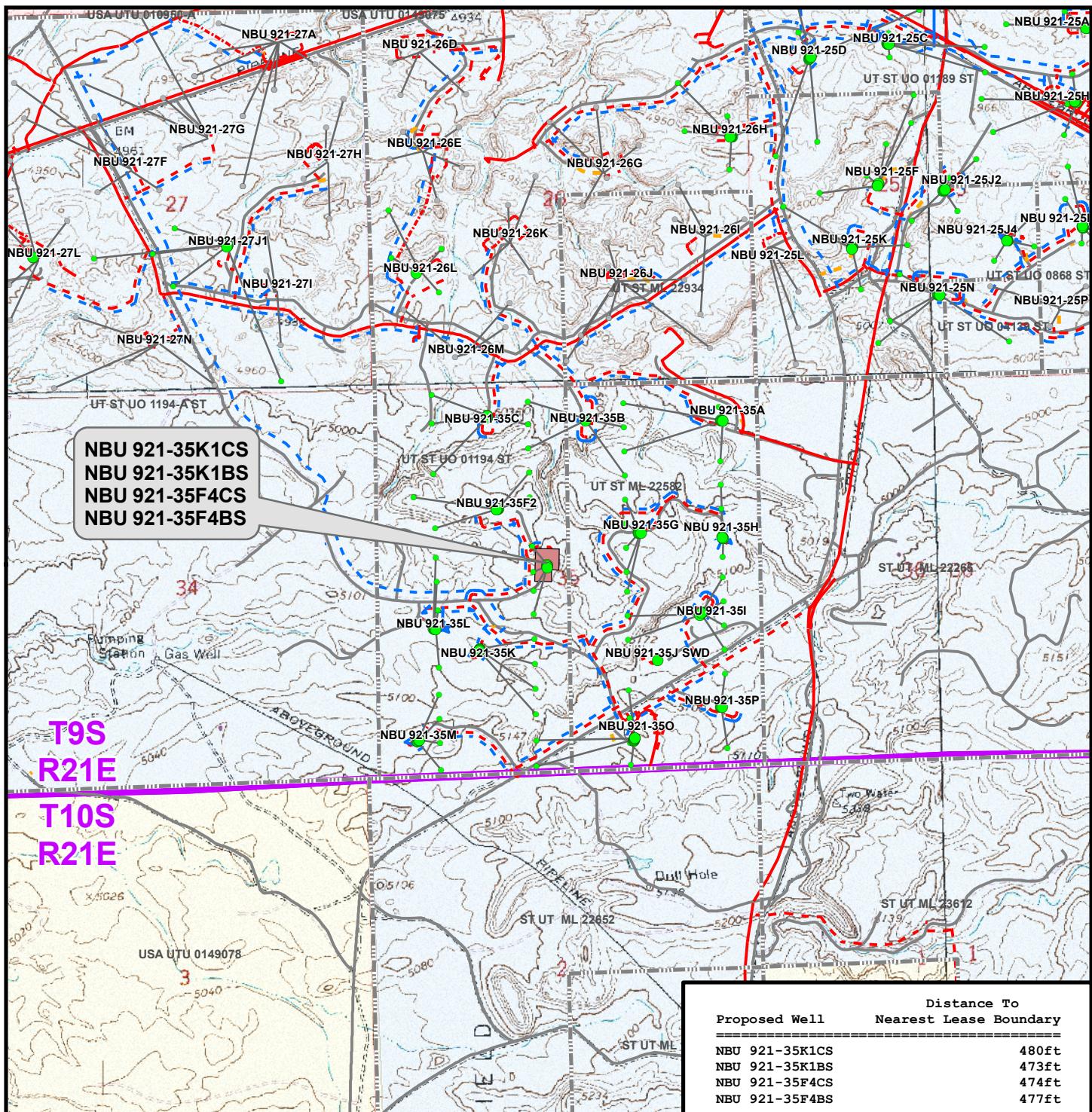
CONSULTING, LLC  
2155 North Main Street  
Sheridan, WY 82801  
Phone (307) 674-0609  
Fax (307) 674-0182



Scale: 1" = 500ft      NAD83 USP Central  
Drawn: TL      Date: 19 Oct 2010  
Revised: TL      Date: 9 Dec 2010

**Sheet No:  
14**

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**Legend**

- Well - Proposed
- Well Pad
- Bottom Hole - Proposed
- Lease Boundary
- Bottom Hole - Existing
- Well Path
- - - Gas Pipeline - Proposed
- - - Gas Pipeline - To Be Upgraded
- - - Liquid Pipeline - Proposed
- - - Liquid Pipeline - To Be Upgraded
- - - Gas Pipeline - Existing
- - - Liquid Pipeline - Existing
- Road - Proposed
- Road - Existing
- Bureau of Land Management
- Indian Reservation
- State
- Private

**Kerr-McGee Oil & Gas Onshore, LP**  
1099 18th Street, Denver, Colorado 80202

**WELL PAD - NBU 921-35F4****TOPO E**

NBU 921-35K1CS, NBU 921-35K1BS,  
NBU 921-35F4CS & NBU 921-35F4BS  
LOCATED IN SECTION 35, T9S, R21E,  
S.L.B.&M., UNTAH COUNTY, UTAH



CONSULTING, LLC  
2155 North Main Street  
Sheridan, WY 82801  
Phone (307) 674-0609  
Fax (307) 674-0182



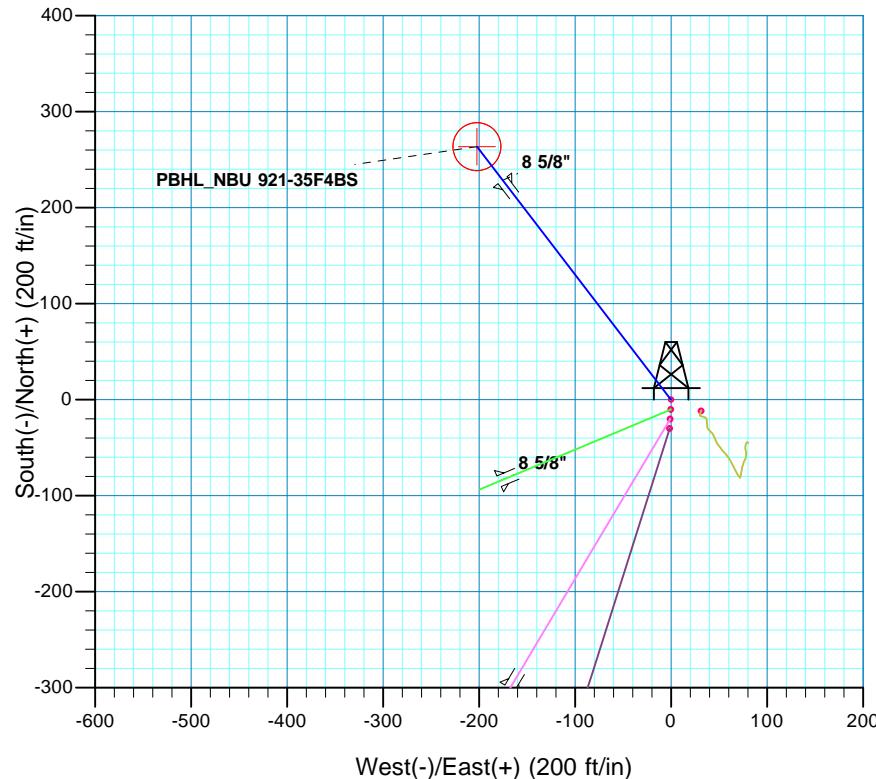
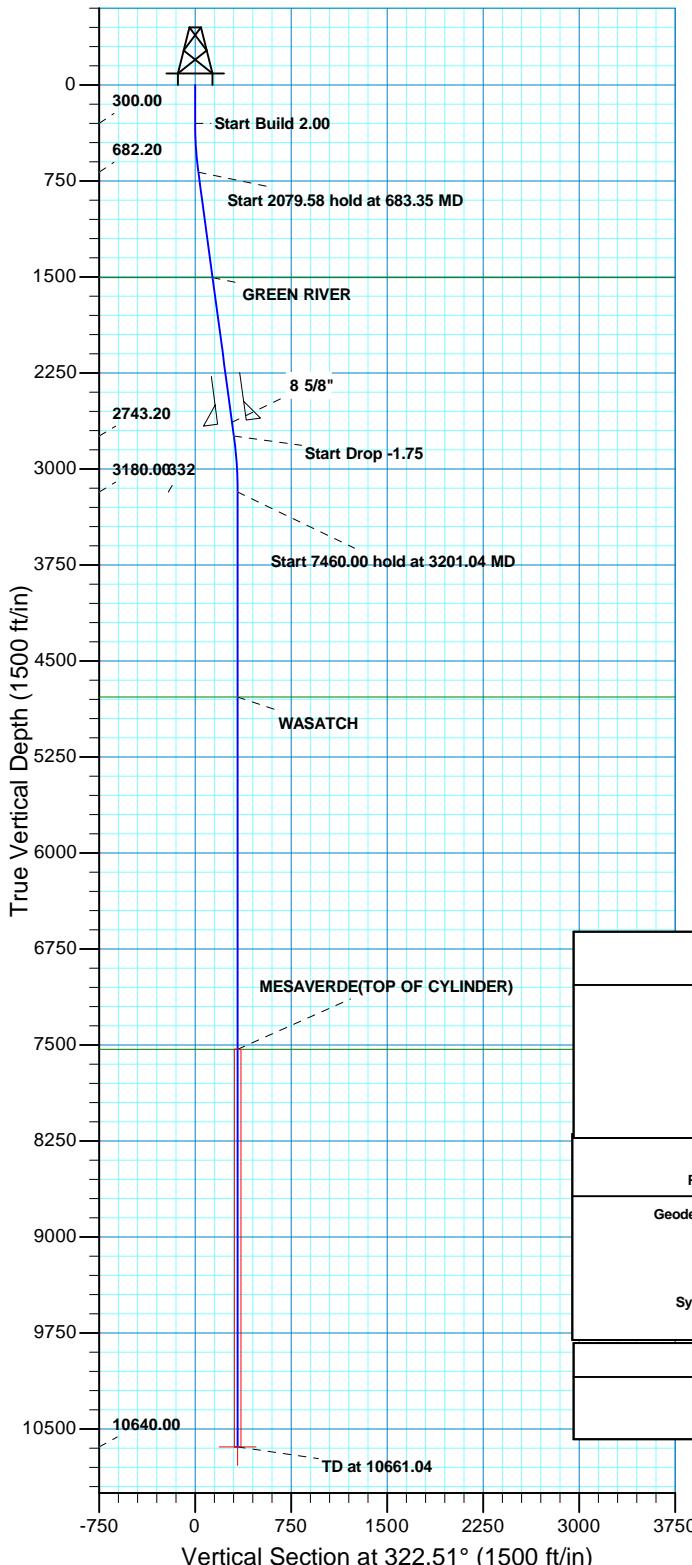
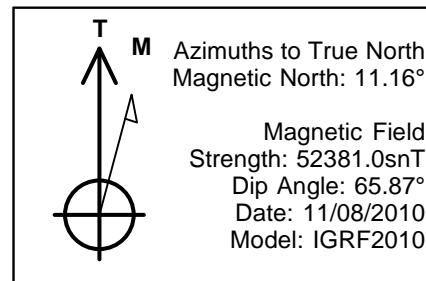
Scale: 1" = 2,000ft NAD83 USP Central Sheet No:  
Drawn: TL Date: 19 Oct 2010 15  
Revised: TL Date: 9 Dec 2010 15 of 16

**Kerr-McGee Oil & Gas Onshore, LP**  
**WELL PAD – NBU 921-35F4**  
**WELLS – NBU 921-35K1CS, NBU 921-35K1BS,**  
**NBU 921-35F4CS & NBU 921-35F4BS**  
**Section 35, T9S, R21E, S.L.B.&M.**

From the intersection of U.S. Highway 40 and 500 East Street in Vernal, Utah, proceed in an easterly then southerly direction along U.S. Highway 40 approximately 3.3 miles to the junction of State Highway 45. Exit right and proceed in a southerly direction along State Highway 45 approximately 20.2 miles to the junction of the Glen Bench Road (County B Road 3260). Exit right and proceed in a southwesterly direction along the Glen Bench Road approximately 20.1 miles to a Class D County Road to the northwest. Exit right and proceed in a northwesterly direction along the Class D County Road approximately 0.5 miles to a second Class D County Road to the east. Exit right and proceed in an easterly then northeasterly direction along the second Class D County Road approximately 0.2 miles to the proposed well pad.

Total distance from Vernal, Utah to the proposed well location is approximately 44.3 miles in a southerly direction.

WELL DETAILS: P_NBU 921-35F4BS						
GL 5120 & KB 14' @ 5134.00ft (ASSUMED)						
+N/S 0.00	+E/W 0.00	Northing 14526946.67	Easting 2055175.13	Latitude 39° 59' 34.861 N	Longitude 109° 31' 9.149 W	
DESIGN TARGET DETAILS						
Name PBHL	TVD 10640.00	+N/S 263.69	+E/W -202.26	Northing 14527206.96	Easting 2054968.52	Latitude 39° 59' 37.468 N      Longitude 109° 31' 11.748 W      Shape Circle (Radius: 25.00)



SECTION DETAILS								
MD	Inc	Azi	TVD	+N/S	+E/W	Dleg	TFace	VSect
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00
683.35	7.67	322.51	682.20	20.32	-15.59	2.00	322.51	25.61
2762.93	7.67	322.51	2743.20	240.46	-184.45	0.00	0.00	303.06
3201.04	0.00	0.00	3180.00	263.69	-202.26	1.75	180.00	332.32
10661.04	0.00	0.00	10640.00	263.69	-202.26	0.00	0.00	332.32
PBHL_NBU 921-35F4BS								
PROJECT DETAILS: UTAH - UTM (feet), NAD27, Zone 12N								
Geodetic System: Universal Transverse Mercator (US Survey Feet) Datum: NAD 1927 (NADCON CONUS) Ellipsoid: Clarke 1866 Zone: Zone 12N (114 W to 108 W) Location: SECTION 35 T95 R21E System Datum: Mean Sea Level								
FORMATION TOP DETAILS								
TDPath	MDPath	Formation						
1505.00	1513.56	GREEN RIVER						
4781.00	4802.04	WASATCH						
7534.00	7555.04	MESAVERDE(TOP OF CYLINDER)						
CASING DETAILS								
TVD	MD	Name	Size					
2634.00	2652.75	8 5/8"	8.625					

Plan: PLAN #1 11-8-10 RHS (P\_NBU 921-35F4BS/P\_NBU 921-35F4BS)

Created By: RobertScott Date: 15:12, November 08 2010



## US ROCKIES REGION PLANNING

UTAH - UTM (feet), NAD27, Zone 12N

NBU 921-35F4 PAD

P\_NBU 921-35F4BS

P\_NBU 921-35F4BS

Plan: PLAN #1 11-8-10 RHS

## Standard Planning Report

08 November, 2010



<b>Database:</b>	EDM5000-RobertS-Local	<b>Local Co-ordinate Reference:</b>	Well P_NBU 921-35F4BS
<b>Company:</b>	US ROCKIES REGION PLANNING	<b>TVD Reference:</b>	GL 5120 & KB 14' @ 5134.00ft (ASSUMED)
<b>Project:</b>	UTAH - UTM (feet), NAD27, Zone 12N	<b>MD Reference:</b>	GL 5120 & KB 14' @ 5134.00ft (ASSUMED)
<b>Site:</b>	NBU 921-35F4 PAD	<b>North Reference:</b>	True
<b>Well:</b>	P_NBU 921-35F4BS	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	P_NBU 921-35F4BS		
<b>Design:</b>	PLAN #1 11-8-10 RHS		

<b>Project</b>	UTAH - UTM (feet), NAD27, Zone 12N		
<b>Map System:</b>	Universal Transverse Mercator (US Survey Feet)	<b>System Datum:</b>	Mean Sea Level
<b>Geo Datum:</b>	NAD 1927 (NADCON CONUS)		
<b>Map Zone:</b>	Zone 12N (114 W to 108 W)		

<b>Site</b>	NBU 921-35F4 PAD, SECTION 35 T9S R21E				
<b>Site Position:</b>		<b>Northing:</b>	14,526,946.67 usft	<b>Latitude:</b>	39° 59' 34.861 N
<b>From:</b>	Lat/Long	<b>Easting:</b>	2,055,175.13 usft	<b>Longitude:</b>	109° 31' 9.149 W
<b>Position Uncertainty:</b>	0.00 ft	<b>Slot Radius:</b>	13.200 in	<b>Grid Convergence:</b>	0.95 °

<b>Well</b>	P_NBU 921-35F4BS, 2473' FNL 2358' FWL				
<b>Well Position</b>	+N/S +E/W	0.00 ft 0.00 ft	<b>Northing:</b> <b>Easting:</b>	14,526,946.67 usft 2,055,175.13 usft	<b>Latitude:</b> <b>Longitude:</b>
<b>Position Uncertainty</b>		0.00 ft	<b>Wellhead Elevation:</b>		<b>Ground Level:</b>
					5,120.00 ft

<b>Wellbore</b>	P_NBU 921-35F4BS				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination</b> (°)	<b>Dip Angle</b> (°)	<b>Field Strength</b> (nT)
	IGRF2010	11/08/2010	11.16	65.87	52,381

<b>Design</b>	PLAN #1 11-8-10 RHS				
<b>Audit Notes:</b>					
<b>Version:</b>		<b>Phase:</b>	PLAN	<b>Tie On Depth:</b>	0.00
<b>Vertical Section:</b>		<b>Depth From (TVD)</b> (ft)	<b>+N/S</b> (ft)	<b>+E/W</b> (ft)	<b>Direction</b> (°)
		0.00	0.00	0.00	322.51

<b>Plan Sections</b>										
<b>Measured Depth</b> (ft)	<b>Inclination</b> (°)	<b>Azimuth</b> (°)	<b>Vertical Depth</b> (ft)	<b>+N/S</b> (ft)	<b>+E/W</b> (ft)	<b>Dogleg Rate</b> (°/100ft)	<b>Build Rate</b> (°/100ft)	<b>Turn Rate</b> (°/100ft)	<b>TFO</b> (°)	<b>Target</b>
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
683.35	7.67	322.51	682.20	20.32	-15.59	2.00	2.00	0.00	0.00	322.51
2,762.93	7.67	322.51	2,743.20	240.46	-184.45	0.00	0.00	0.00	0.00	0.00
3,201.04	0.00	0.00	3,180.00	263.69	-202.26	1.75	-1.75	0.00	0.00	180.00
10,661.04	0.00	0.00	10,640.00	263.69	-202.26	0.00	0.00	0.00	0.00	PBHL_NBU 921-35F4

<b>Database:</b>	EDM5000-Roberts-Local	<b>Local Co-ordinate Reference:</b>	Well P_NBU 921-35F4BS
<b>Company:</b>	US ROCKIES REGION PLANNING	<b>TVD Reference:</b>	GL 5120 & KB 14' @ 5134.00ft (ASSUMED)
<b>Project:</b>	UTAH - UTM (feet), NAD27, Zone 12N	<b>MD Reference:</b>	GL 5120 & KB 14' @ 5134.00ft (ASSUMED)
<b>Site:</b>	NBU 921-35F4 PAD	<b>North Reference:</b>	True
<b>Well:</b>	P_NBU 921-35F4BS	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	P_NBU 921-35F4BS		
<b>Design:</b>	PLAN #1 11-8-10 RHS		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	0.00
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>Start Build 2.00</b>									
400.00	2.00	322.51	399.98	1.38	-1.06	1.75	2.00	2.00	0.00
500.00	4.00	322.51	499.84	5.54	-4.25	6.98	2.00	2.00	0.00
600.00	6.00	322.51	599.45	12.45	-9.55	15.69	2.00	2.00	0.00
683.35	7.67	322.51	682.20	20.32	-15.59	25.61	2.00	2.00	0.00
<b>Start 2079.58 hold at 683.35 MD</b>									
700.00	7.67	322.51	698.71	22.08	-16.94	27.83	0.00	0.00	0.00
800.00	7.67	322.51	797.81	32.67	-25.06	41.17	0.00	0.00	0.00
900.00	7.67	322.51	896.92	43.26	-33.18	54.51	0.00	0.00	0.00
1,000.00	7.67	322.51	996.03	53.84	-41.30	67.86	0.00	0.00	0.00
1,100.00	7.67	322.51	1,095.13	64.43	-49.42	81.20	0.00	0.00	0.00
1,200.00	7.67	322.51	1,194.24	75.01	-57.54	94.54	0.00	0.00	0.00
1,300.00	7.67	322.51	1,293.34	85.60	-65.66	107.88	0.00	0.00	0.00
1,400.00	7.67	322.51	1,392.45	96.18	-73.78	121.22	0.00	0.00	0.00
1,500.00	7.67	322.51	1,491.56	106.77	-81.90	134.56	0.00	0.00	0.00
1,513.56	7.67	322.51	1,505.00	108.21	-83.00	136.37	0.00	0.00	0.00
<b>GREEN RIVER</b>									
1,600.00	7.67	322.51	1,590.66	117.36	-90.02	147.90	0.00	0.00	0.00
1,700.00	7.67	322.51	1,689.77	127.94	-98.14	161.25	0.00	0.00	0.00
1,800.00	7.67	322.51	1,788.87	138.53	-106.26	174.59	0.00	0.00	0.00
1,900.00	7.67	322.51	1,887.98	149.11	-114.38	187.93	0.00	0.00	0.00
2,000.00	7.67	322.51	1,987.09	159.70	-122.50	201.27	0.00	0.00	0.00
2,100.00	7.67	322.51	2,086.19	170.29	-130.62	214.61	0.00	0.00	0.00
2,200.00	7.67	322.51	2,185.30	180.87	-138.74	227.95	0.00	0.00	0.00
2,300.00	7.67	322.51	2,284.40	191.46	-146.86	241.29	0.00	0.00	0.00
2,400.00	7.67	322.51	2,383.51	202.04	-154.98	254.64	0.00	0.00	0.00
2,500.00	7.67	322.51	2,482.62	212.63	-163.10	267.98	0.00	0.00	0.00
2,600.00	7.67	322.51	2,581.72	223.21	-171.22	281.32	0.00	0.00	0.00
2,652.75	7.67	322.51	2,634.00	228.80	-175.50	288.36	0.00	0.00	0.00
<b>8 5/8"</b>									
2,700.00	7.67	322.51	2,680.83	233.80	-179.34	294.66	0.00	0.00	0.00
2,762.93	7.67	322.51	2,743.20	240.46	-184.45	303.06	0.00	0.00	0.00
<b>Start Drop -1.75</b>									
2,800.00	7.02	322.51	2,779.96	244.22	-187.33	307.79	1.75	-1.75	0.00
2,900.00	5.27	322.51	2,879.38	252.71	-193.84	318.49	1.75	-1.75	0.00
3,000.00	3.52	322.51	2,979.09	258.79	-198.51	326.15	1.75	-1.75	0.00
3,100.00	1.77	322.51	3,078.98	262.45	-201.31	330.77	1.75	-1.75	0.00
3,200.00	0.02	322.51	3,178.96	263.69	-202.26	332.32	1.75	-1.75	0.00
3,201.04	0.00	0.00	3,180.00	263.69	-202.26	332.32	1.75	-1.75	0.00
<b>Start 7460.00 hold at 3201.04 MD</b>									
3,300.00	0.00	0.00	3,278.96	263.69	-202.26	332.32	0.00	0.00	0.00
3,400.00	0.00	0.00	3,378.96	263.69	-202.26	332.32	0.00	0.00	0.00
3,500.00	0.00	0.00	3,478.96	263.69	-202.26	332.32	0.00	0.00	0.00
3,600.00	0.00	0.00	3,578.96	263.69	-202.26	332.32	0.00	0.00	0.00
3,700.00	0.00	0.00	3,678.96	263.69	-202.26	332.32	0.00	0.00	0.00
3,800.00	0.00	0.00	3,778.96	263.69	-202.26	332.32	0.00	0.00	0.00
3,900.00	0.00	0.00	3,878.96	263.69	-202.26	332.32	0.00	0.00	0.00
4,000.00	0.00	0.00	3,978.96	263.69	-202.26	332.32	0.00	0.00	0.00
4,100.00	0.00	0.00	4,078.96	263.69	-202.26	332.32	0.00	0.00	0.00

<b>Database:</b>	EDM5000-RobertS-Local	<b>Local Co-ordinate Reference:</b>	Well P_NBU 921-35F4BS
<b>Company:</b>	US ROCKIES REGION PLANNING	<b>TVD Reference:</b>	GL 5120 & KB 14' @ 5134.00ft (ASSUMED)
<b>Project:</b>	UTAH - UTM (feet), NAD27, Zone 12N	<b>MD Reference:</b>	GL 5120 & KB 14' @ 5134.00ft (ASSUMED)
<b>Site:</b>	NBU 921-35F4 PAD	<b>North Reference:</b>	True
<b>Well:</b>	P_NBU 921-35F4BS	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	P_NBU 921-35F4BS		
<b>Design:</b>	PLAN #1 11-8-10 RHS		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/S (ft)	+E/W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
4,200.00	0.00	0.00	4,178.96	263.69	-202.26	332.32	0.00	0.00	0.00
4,300.00	0.00	0.00	4,278.96	263.69	-202.26	332.32	0.00	0.00	0.00
4,400.00	0.00	0.00	4,378.96	263.69	-202.26	332.32	0.00	0.00	0.00
4,500.00	0.00	0.00	4,478.96	263.69	-202.26	332.32	0.00	0.00	0.00
4,600.00	0.00	0.00	4,578.96	263.69	-202.26	332.32	0.00	0.00	0.00
4,700.00	0.00	0.00	4,678.96	263.69	-202.26	332.32	0.00	0.00	0.00
4,800.00	0.00	0.00	4,778.96	263.69	-202.26	332.32	0.00	0.00	0.00
4,802.04	0.00	0.00	4,781.00	263.69	-202.26	332.32	0.00	0.00	0.00
<b>WASATCH</b>									
4,900.00	0.00	0.00	4,878.96	263.69	-202.26	332.32	0.00	0.00	0.00
5,000.00	0.00	0.00	4,978.96	263.69	-202.26	332.32	0.00	0.00	0.00
5,100.00	0.00	0.00	5,078.96	263.69	-202.26	332.32	0.00	0.00	0.00
5,200.00	0.00	0.00	5,178.96	263.69	-202.26	332.32	0.00	0.00	0.00
5,300.00	0.00	0.00	5,278.96	263.69	-202.26	332.32	0.00	0.00	0.00
5,400.00	0.00	0.00	5,378.96	263.69	-202.26	332.32	0.00	0.00	0.00
5,500.00	0.00	0.00	5,478.96	263.69	-202.26	332.32	0.00	0.00	0.00
5,600.00	0.00	0.00	5,578.96	263.69	-202.26	332.32	0.00	0.00	0.00
5,700.00	0.00	0.00	5,678.96	263.69	-202.26	332.32	0.00	0.00	0.00
5,800.00	0.00	0.00	5,778.96	263.69	-202.26	332.32	0.00	0.00	0.00
5,900.00	0.00	0.00	5,878.96	263.69	-202.26	332.32	0.00	0.00	0.00
6,000.00	0.00	0.00	5,978.96	263.69	-202.26	332.32	0.00	0.00	0.00
6,100.00	0.00	0.00	6,078.96	263.69	-202.26	332.32	0.00	0.00	0.00
6,200.00	0.00	0.00	6,178.96	263.69	-202.26	332.32	0.00	0.00	0.00
6,300.00	0.00	0.00	6,278.96	263.69	-202.26	332.32	0.00	0.00	0.00
6,400.00	0.00	0.00	6,378.96	263.69	-202.26	332.32	0.00	0.00	0.00
6,500.00	0.00	0.00	6,478.96	263.69	-202.26	332.32	0.00	0.00	0.00
6,600.00	0.00	0.00	6,578.96	263.69	-202.26	332.32	0.00	0.00	0.00
6,700.00	0.00	0.00	6,678.96	263.69	-202.26	332.32	0.00	0.00	0.00
6,800.00	0.00	0.00	6,778.96	263.69	-202.26	332.32	0.00	0.00	0.00
6,900.00	0.00	0.00	6,878.96	263.69	-202.26	332.32	0.00	0.00	0.00
7,000.00	0.00	0.00	6,978.96	263.69	-202.26	332.32	0.00	0.00	0.00
7,100.00	0.00	0.00	7,078.96	263.69	-202.26	332.32	0.00	0.00	0.00
7,200.00	0.00	0.00	7,178.96	263.69	-202.26	332.32	0.00	0.00	0.00
7,300.00	0.00	0.00	7,278.96	263.69	-202.26	332.32	0.00	0.00	0.00
7,400.00	0.00	0.00	7,378.96	263.69	-202.26	332.32	0.00	0.00	0.00
7,500.00	0.00	0.00	7,478.96	263.69	-202.26	332.32	0.00	0.00	0.00
7,555.04	0.00	0.00	7,534.00	263.69	-202.26	332.32	0.00	0.00	0.00
<b>MESAVERDE(TOP OF CYLINDER)</b>									
7,600.00	0.00	0.00	7,578.96	263.69	-202.26	332.32	0.00	0.00	0.00
7,700.00	0.00	0.00	7,678.96	263.69	-202.26	332.32	0.00	0.00	0.00
7,800.00	0.00	0.00	7,778.96	263.69	-202.26	332.32	0.00	0.00	0.00
7,900.00	0.00	0.00	7,878.96	263.69	-202.26	332.32	0.00	0.00	0.00
8,000.00	0.00	0.00	7,978.96	263.69	-202.26	332.32	0.00	0.00	0.00
8,100.00	0.00	0.00	8,078.96	263.69	-202.26	332.32	0.00	0.00	0.00
8,200.00	0.00	0.00	8,178.96	263.69	-202.26	332.32	0.00	0.00	0.00
8,300.00	0.00	0.00	8,278.96	263.69	-202.26	332.32	0.00	0.00	0.00
8,400.00	0.00	0.00	8,378.96	263.69	-202.26	332.32	0.00	0.00	0.00
8,500.00	0.00	0.00	8,478.96	263.69	-202.26	332.32	0.00	0.00	0.00
8,600.00	0.00	0.00	8,578.96	263.69	-202.26	332.32	0.00	0.00	0.00
8,700.00	0.00	0.00	8,678.96	263.69	-202.26	332.32	0.00	0.00	0.00
8,800.00	0.00	0.00	8,778.96	263.69	-202.26	332.32	0.00	0.00	0.00
8,900.00	0.00	0.00	8,878.96	263.69	-202.26	332.32	0.00	0.00	0.00
9,000.00	0.00	0.00	8,978.96	263.69	-202.26	332.32	0.00	0.00	0.00
9,100.00	0.00	0.00	9,078.96	263.69	-202.26	332.32	0.00	0.00	0.00

<b>Database:</b>	EDM5000-RobertS-Local	<b>Local Co-ordinate Reference:</b>	Well P_NBU 921-35F4BS
<b>Company:</b>	US ROCKIES REGION PLANNING	<b>TVD Reference:</b>	GL 5120 & KB 14' @ 5134.00ft (ASSUMED)
<b>Project:</b>	UTAH - UTM (feet), NAD27, Zone 12N	<b>MD Reference:</b>	GL 5120 & KB 14' @ 5134.00ft (ASSUMED)
<b>Site:</b>	NBU 921-35F4 PAD	<b>North Reference:</b>	True
<b>Well:</b>	P_NBU 921-35F4BS	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	P_NBU 921-35F4BS		
<b>Design:</b>	PLAN #1 11-8-10 RHS		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/S (ft)	+E/W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
9,200.00	0.00	0.00	9,178.96	263.69	-202.26	332.32	0.00	0.00	0.00
9,300.00	0.00	0.00	9,278.96	263.69	-202.26	332.32	0.00	0.00	0.00
9,400.00	0.00	0.00	9,378.96	263.69	-202.26	332.32	0.00	0.00	0.00
9,500.00	0.00	0.00	9,478.96	263.69	-202.26	332.32	0.00	0.00	0.00
9,600.00	0.00	0.00	9,578.96	263.69	-202.26	332.32	0.00	0.00	0.00
9,700.00	0.00	0.00	9,678.96	263.69	-202.26	332.32	0.00	0.00	0.00
9,800.00	0.00	0.00	9,778.96	263.69	-202.26	332.32	0.00	0.00	0.00
9,900.00	0.00	0.00	9,878.96	263.69	-202.26	332.32	0.00	0.00	0.00
10,000.00	0.00	0.00	9,978.96	263.69	-202.26	332.32	0.00	0.00	0.00
10,100.00	0.00	0.00	10,078.96	263.69	-202.26	332.32	0.00	0.00	0.00
10,200.00	0.00	0.00	10,178.96	263.69	-202.26	332.32	0.00	0.00	0.00
10,300.00	0.00	0.00	10,278.96	263.69	-202.26	332.32	0.00	0.00	0.00
10,400.00	0.00	0.00	10,378.96	263.69	-202.26	332.32	0.00	0.00	0.00
10,500.00	0.00	0.00	10,478.96	263.69	-202.26	332.32	0.00	0.00	0.00
10,600.00	0.00	0.00	10,578.96	263.69	-202.26	332.32	0.00	0.00	0.00
10,661.04	0.00	0.00	10,640.00	263.69	-202.26	332.32	0.00	0.00	0.00
<b>PBHL_NBU 921-35F4BS</b>									

Design Targets										
Target Name		Dip Angle (°)	Dip Dir.	TVD (ft)	+N/S (ft)	+E/W (ft)	Northing (usft)	Easting (usft)	Latitude	Longitude
- hit/miss target		0.00	0.00	10,640.00	263.69	-202.26	14,527,206.96	2,054,968.52	39° 59' 37.468 N	109° 31' 11.748 W
- Shape										
- plan hits target center										
- Circle (radius 25.00)										

Casing Points									
Measured Depth (ft)	Vertical Depth (ft)	Name				Casing Diameter (in)	Hole Diameter (in)		
2,652.75	2,634.00	8 5/8"				8.625	11.000		

Formations									
Measured Depth (ft)	Vertical Depth (ft)	Name			Lithology	Dip (°)	Dip Direction (°)		
1,513.56	1,505.00	GREEN RIVER							
4,802.04	4,781.00	WASATCH							
7,555.04	7,534.00	MESAVERDE(TOP OF CYLINDER)							

<b>Database:</b>	EDM5000-RobertS-Local	<b>Local Co-ordinate Reference:</b>	Well P_NBU 921-35F4BS
<b>Company:</b>	US ROCKIES REGION PLANNING	<b>TVD Reference:</b>	GL 5120 & KB 14' @ 5134.00ft (ASSUMED)
<b>Project:</b>	UTAH - UTM (feet), NAD27, Zone 12N	<b>MD Reference:</b>	GL 5120 & KB 14' @ 5134.00ft (ASSUMED)
<b>Site:</b>	NBU 921-35F4 PAD	<b>North Reference:</b>	True
<b>Well:</b>	P_NBU 921-35F4BS	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	P_NBU 921-35F4BS		
<b>Design:</b>	PLAN #1 11-8-10 RHS		

**Plan Annotations**

<b>Measured Depth (ft)</b>	<b>Vertical Depth (ft)</b>	<b>Local Coordinates</b>			<b>Comment</b>
		<b>+N/S (ft)</b>	<b>+E/W (ft)</b>		
300.00	300.00	0.00	0.00		Start Build 2.00
683.35	682.20	20.32	-15.59		Start 2079.58 hold at 683.35 MD
2,762.93	2,743.20	240.46	-184.45		Start Drop -1.75
3,201.04	3,180.00	263.69	-202.26		Start 7460.00 hold at 3201.04 MD
10,661.04	10,640.00	263.69	-202.26		TD at 10661.04



# US ROCKIES REGION PLANNING

UTAH - UTM (feet), NAD27, Zone 12N

NBU 921-35F4 PAD

P\_NBU 921-35F4BS

P\_NBU 921-35F4BS

Plan: PLAN #1 11-8-10 RHS

## Standard Planning Report - Geographic

08 November, 2010



<b>Database:</b>	EDM5000-RobertS-Local	<b>Local Co-ordinate Reference:</b>	Well P_NBU 921-35F4BS
<b>Company:</b>	US ROCKIES REGION PLANNING	<b>TVD Reference:</b>	GL 5120 & KB 14' @ 5134.00ft (ASSUMED)
<b>Project:</b>	UTAH - UTM (feet), NAD27, Zone 12N	<b>MD Reference:</b>	GL 5120 & KB 14' @ 5134.00ft (ASSUMED)
<b>Site:</b>	NBU 921-35F4 PAD	<b>North Reference:</b>	True
<b>Well:</b>	P_NBU 921-35F4BS	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	P_NBU 921-35F4BS		
<b>Design:</b>	PLAN #1 11-8-10 RHS		

<b>Project</b>	UTAH - UTM (feet), NAD27, Zone 12N		
<b>Map System:</b>	Universal Transverse Mercator (US Survey Feet)	<b>System Datum:</b>	Mean Sea Level
<b>Geo Datum:</b>	NAD 1927 (NADCON CONUS)		
<b>Map Zone:</b>	Zone 12N (114 W to 108 W)		

<b>Site</b>	NBU 921-35F4 PAD, SECTION 35 T9S R21E				
<b>Site Position:</b>		<b>Northing:</b>	14,526,946.67 usft	<b>Latitude:</b>	39° 59' 34.861 N
<b>From:</b>	Lat/Long	<b>Easting:</b>	2,055,175.13 usft	<b>Longitude:</b>	109° 31' 9.149 W
<b>Position Uncertainty:</b>	0.00 ft	<b>Slot Radius:</b>	13.200 in	<b>Grid Convergence:</b>	0.95 °

<b>Well</b>	P_NBU 921-35F4BS, 2473' FNL 2358' FWL				
<b>Well Position</b>	+N/S +E/W	0.00 ft 0.00 ft	<b>Northing:</b> <b>Easting:</b>	14,526,946.67 usft 2,055,175.13 usft	<b>Latitude:</b> <b>Longitude:</b>
<b>Position Uncertainty</b>		0.00 ft	<b>Wellhead Elevation:</b>		<b>Ground Level:</b>
					5,120.00 ft

<b>Wellbore</b>	P_NBU 921-35F4BS				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination</b> (°)	<b>Dip Angle</b> (°)	<b>Field Strength</b> (nT)
	IGRF2010	11/08/2010	11.16	65.87	52,381

<b>Design</b>	PLAN #1 11-8-10 RHS				
<b>Audit Notes:</b>					
<b>Version:</b>		<b>Phase:</b>	PLAN	<b>Tie On Depth:</b>	0.00
<b>Vertical Section:</b>		<b>Depth From (TVD)</b> (ft)	+N/S (ft)	+E/W (ft)	<b>Direction</b> (°)
		0.00	0.00	0.00	322.51

<b>Plan Sections</b>										
<b>Measured</b>	<b>Depth</b> (ft)	<b>Inclination</b> (°)	<b>Azimuth</b> (°)	<b>Vertical</b> <b>Depth</b> (ft)	<b>+N/S</b> (ft)	<b>+E/W</b> (ft)	<b>Dogleg</b> <b>Rate</b> (°/100ft)	<b>Build</b> <b>Rate</b> (°/100ft)	<b>Turn</b> <b>Rate</b> (°/100ft)	<b>TFO</b> (°)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
300.00	0.00	0.00	322.51	300.00	0.00	0.00	0.00	0.00	0.00	0.00
683.35	7.67	322.51	682.20	20.32	-15.59	2.00	2.00	0.00	0.00	322.51
2,762.93	7.67	322.51	2,743.20	240.46	-184.45	0.00	0.00	0.00	0.00	0.00
3,201.04	0.00	0.00	3,180.00	263.69	-202.26	1.75	-1.75	0.00	0.00	180.00
10,661.04	0.00	0.00	10,640.00	263.69	-202.26	0.00	0.00	0.00	0.00	PBHL_NBU 921-35F4

<b>Database:</b>	EDM5000-RobertS-Local	<b>Local Co-ordinate Reference:</b>	Well P_NBU 921-35F4BS
<b>Company:</b>	US ROCKIES REGION PLANNING	<b>TVD Reference:</b>	GL 5120 & KB 14' @ 5134.00ft (ASSUMED)
<b>Project:</b>	UTAH - UTM (feet), NAD27, Zone 12N	<b>MD Reference:</b>	GL 5120 & KB 14' @ 5134.00ft (ASSUMED)
<b>Site:</b>	NBU 921-35F4 PAD	<b>North Reference:</b>	True
<b>Well:</b>	P_NBU 921-35F4BS	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	P_NBU 921-35F4BS		
<b>Design:</b>	PLAN #1 11-8-10 RHS		

Planned Survey										
Measured			Vertical		Map		Map			
Depth (ft)	Inclination (°)	Azimuth (°)	Depth (ft)	+N/S (ft)	+E/W (ft)	Northing (usft)	Easting (usft)	Latitude	Longitude	
0.00	0.00	0.00	0.00	0.00	0.00	14,526,946.67	2,055,175.13	39° 59' 34.861 N	109° 31' 9.149 W	
100.00	0.00	0.00	100.00	0.00	0.00	14,526,946.67	2,055,175.13	39° 59' 34.861 N	109° 31' 9.149 W	
200.00	0.00	0.00	200.00	0.00	0.00	14,526,946.67	2,055,175.13	39° 59' 34.861 N	109° 31' 9.149 W	
300.00	0.00	0.00	300.00	0.00	0.00	14,526,946.67	2,055,175.13	39° 59' 34.861 N	109° 31' 9.149 W	
<b>Start Build 2.00</b>										
400.00	2.00	322.51	399.98	1.38	-1.06	14,526,948.04	2,055,174.05	39° 59' 34.875 N	109° 31' 9.162 W	
500.00	4.00	322.51	499.84	5.54	-4.25	14,526,952.14	2,055,170.79	39° 59' 34.916 N	109° 31' 9.203 W	
600.00	6.00	322.51	599.45	12.45	-9.55	14,526,958.96	2,055,165.37	39° 59' 34.984 N	109° 31' 9.272 W	
683.35	7.67	322.51	682.20	20.32	-15.59	14,526,966.73	2,055,159.21	39° 59' 35.062 N	109° 31' 9.349 W	
<b>Start 2079.58 hold at 683.35 MD</b>										
700.00	7.67	322.51	698.71	22.08	-16.94	14,526,968.47	2,055,157.83	39° 59' 35.079 N	109° 31' 9.366 W	
800.00	7.67	322.51	797.81	32.67	-25.06	14,526,978.92	2,055,149.53	39° 59' 35.184 N	109° 31' 9.471 W	
900.00	7.67	322.51	896.92	43.26	-33.18	14,526,989.37	2,055,141.24	39° 59' 35.289 N	109° 31' 9.575 W	
1,000.00	7.67	322.51	996.03	53.84	-41.30	14,526,999.82	2,055,132.94	39° 59' 35.393 N	109° 31' 9.680 W	
1,100.00	7.67	322.51	1,095.13	64.43	-49.42	14,527,010.27	2,055,124.65	39° 59' 35.498 N	109° 31' 9.784 W	
1,200.00	7.67	322.51	1,194.24	75.01	-57.54	14,527,020.72	2,055,116.35	39° 59' 35.603 N	109° 31' 9.888 W	
1,300.00	7.67	322.51	1,293.34	85.60	-65.66	14,527,031.17	2,055,108.06	39° 59' 35.707 N	109° 31' 9.993 W	
1,400.00	7.67	322.51	1,392.45	96.18	-73.78	14,527,041.62	2,055,099.76	39° 59' 35.812 N	109° 31' 10.097 W	
1,500.00	7.67	322.51	1,491.56	106.77	-81.90	14,527,052.07	2,055,091.47	39° 59' 35.917 N	109° 31' 10.201 W	
1,513.56	7.67	322.51	1,505.00	108.21	-83.00	14,527,053.48	2,055,090.34	39° 59' 35.931 N	109° 31' 10.215 W	
<b>GREEN RIVER</b>										
1,600.00	7.67	322.51	1,590.66	117.36	-90.02	14,527,062.52	2,055,083.18	39° 59' 36.021 N	109° 31' 10.306 W	
1,700.00	7.67	322.51	1,689.77	127.94	-98.14	14,527,072.97	2,055,074.88	39° 59' 36.126 N	109° 31' 10.410 W	
1,800.00	7.67	322.51	1,788.87	138.53	-106.26	14,527,083.41	2,055,066.59	39° 59' 36.230 N	109° 31' 10.514 W	
1,900.00	7.67	322.51	1,887.98	149.11	-114.38	14,527,093.86	2,055,058.29	39° 59' 36.335 N	109° 31' 10.619 W	
2,000.00	7.67	322.51	1,987.09	159.70	-122.50	14,527,104.31	2,055,050.00	39° 59' 36.440 N	109° 31' 10.723 W	
2,100.00	7.67	322.51	2,086.19	170.29	-130.62	14,527,114.76	2,055,041.70	39° 59' 36.544 N	109° 31' 10.827 W	
2,200.00	7.67	322.51	2,185.30	180.87	-138.74	14,527,125.21	2,055,033.41	39° 59' 36.649 N	109° 31' 10.932 W	
2,300.00	7.67	322.51	2,284.40	191.46	-146.86	14,527,135.66	2,055,025.11	39° 59' 36.754 N	109° 31' 11.036 W	
2,400.00	7.67	322.51	2,383.51	202.04	-154.98	14,527,146.11	2,055,016.82	39° 59' 36.858 N	109° 31' 11.140 W	
2,500.00	7.67	322.51	2,482.62	212.63	-163.10	14,527,156.56	2,055,008.52	39° 59' 36.963 N	109° 31' 11.245 W	
2,600.00	7.67	322.51	2,581.72	223.21	-171.22	14,527,167.01	2,055,000.23	39° 59' 37.068 N	109° 31' 11.349 W	
2,652.75	7.67	322.51	2,634.00	228.80	-175.50	14,527,172.52	2,054,995.85	39° 59' 37.123 N	109° 31' 11.404 W	
<b>8 5/8"</b>										
2,700.00	7.67	322.51	2,680.83	233.80	-179.34	14,527,177.46	2,054,991.93	39° 59' 37.172 N	109° 31' 11.453 W	
2,762.93	7.67	322.51	2,743.20	240.46	-184.45	14,527,184.04	2,054,986.71	39° 59' 37.238 N	109° 31' 11.519 W	
<b>Start Drop -1.75</b>										
2,800.00	7.02	322.51	2,779.96	244.22	-187.33	14,527,187.75	2,054,983.77	39° 59' 37.275 N	109° 31' 11.556 W	
2,900.00	5.27	322.51	2,879.38	252.71	-193.84	14,527,196.13	2,054,977.12	39° 59' 37.359 N	109° 31' 11.640 W	
3,000.00	3.52	322.51	2,979.09	258.79	-198.51	14,527,202.13	2,054,972.35	39° 59' 37.419 N	109° 31' 11.700 W	
3,100.00	1.77	322.51	3,078.98	262.45	-201.31	14,527,205.74	2,054,969.49	39° 59' 37.455 N	109° 31' 11.736 W	
3,200.00	0.02	322.51	3,178.96	263.69	-202.26	14,527,206.96	2,054,968.52	39° 59' 37.468 N	109° 31' 11.748 W	
3,201.04	0.00	0.00	3,180.00	263.69	-202.26	14,527,206.96	2,054,968.52	39° 59' 37.468 N	109° 31' 11.748 W	
<b>Start 7460.00 hold at 3201.04 MD</b>										
3,300.00	0.00	0.00	3,278.96	263.69	-202.26	14,527,206.96	2,054,968.52	39° 59' 37.468 N	109° 31' 11.748 W	
3,400.00	0.00	0.00	3,378.96	263.69	-202.26	14,527,206.96	2,054,968.52	39° 59' 37.468 N	109° 31' 11.748 W	
3,500.00	0.00	0.00	3,478.96	263.69	-202.26	14,527,206.96	2,054,968.52	39° 59' 37.468 N	109° 31' 11.748 W	
3,600.00	0.00	0.00	3,578.96	263.69	-202.26	14,527,206.96	2,054,968.52	39° 59' 37.468 N	109° 31' 11.748 W	
3,700.00	0.00	0.00	3,678.96	263.69	-202.26	14,527,206.96	2,054,968.52	39° 59' 37.468 N	109° 31' 11.748 W	
3,800.00	0.00	0.00	3,778.96	263.69	-202.26	14,527,206.96	2,054,968.52	39° 59' 37.468 N	109° 31' 11.748 W	
3,900.00	0.00	0.00	3,878.96	263.69	-202.26	14,527,206.96	2,054,968.52	39° 59' 37.468 N	109° 31' 11.748 W	
4,000.00	0.00	0.00	3,978.96	263.69	-202.26	14,527,206.96	2,054,968.52	39° 59' 37.468 N	109° 31' 11.748 W	
4,100.00	0.00	0.00	4,078.96	263.69	-202.26	14,527,206.96	2,054,968.52	39° 59' 37.468 N	109° 31' 11.748 W	
4,200.00	0.00	0.00	4,178.96	263.69	-202.26	14,527,206.96	2,054,968.52	39° 59' 37.468 N	109° 31' 11.748 W	

<b>Database:</b>	EDM5000-RobertS-Local	<b>Local Co-ordinate Reference:</b>	Well P_NBU 921-35F4BS
<b>Company:</b>	US ROCKIES REGION PLANNING	<b>TVD Reference:</b>	GL 5120 & KB 14' @ 5134.00ft (ASSUMED)
<b>Project:</b>	UTAH - UTM (feet), NAD27, Zone 12N	<b>MD Reference:</b>	GL 5120 & KB 14' @ 5134.00ft (ASSUMED)
<b>Site:</b>	NBU 921-35F4 PAD	<b>North Reference:</b>	True
<b>Well:</b>	P_NBU 921-35F4BS	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	P_NBU 921-35F4BS		
<b>Design:</b>	PLAN #1 11-8-10 RHS		

Planned Survey									
Measured			Vertical		Map		Map		
Depth (ft)	Inclination (°)	Azimuth (°)	Depth (ft)	+N/-S (ft)	+E/-W (ft)	Northing (usft)	Easting (usft)	Latitude	Longitude
4,300.00	0.00	0.00	4,278.96	263.69	-202.26	14,527,206.96	2,054,968.52	39° 59' 37.468 N	109° 31' 11.748 W
4,400.00	0.00	0.00	4,378.96	263.69	-202.26	14,527,206.96	2,054,968.52	39° 59' 37.468 N	109° 31' 11.748 W
4,500.00	0.00	0.00	4,478.96	263.69	-202.26	14,527,206.96	2,054,968.52	39° 59' 37.468 N	109° 31' 11.748 W
4,600.00	0.00	0.00	4,578.96	263.69	-202.26	14,527,206.96	2,054,968.52	39° 59' 37.468 N	109° 31' 11.748 W
4,700.00	0.00	0.00	4,678.96	263.69	-202.26	14,527,206.96	2,054,968.52	39° 59' 37.468 N	109° 31' 11.748 W
4,800.00	0.00	0.00	4,778.96	263.69	-202.26	14,527,206.96	2,054,968.52	39° 59' 37.468 N	109° 31' 11.748 W
4,802.04	0.00	0.00	4,781.00	263.69	-202.26	14,527,206.96	2,054,968.52	39° 59' 37.468 N	109° 31' 11.748 W
<b>WASATCH</b>									
4,900.00	0.00	0.00	4,878.96	263.69	-202.26	14,527,206.96	2,054,968.52	39° 59' 37.468 N	109° 31' 11.748 W
5,000.00	0.00	0.00	4,978.96	263.69	-202.26	14,527,206.96	2,054,968.52	39° 59' 37.468 N	109° 31' 11.748 W
5,100.00	0.00	0.00	5,078.96	263.69	-202.26	14,527,206.96	2,054,968.52	39° 59' 37.468 N	109° 31' 11.748 W
5,200.00	0.00	0.00	5,178.96	263.69	-202.26	14,527,206.96	2,054,968.52	39° 59' 37.468 N	109° 31' 11.748 W
5,300.00	0.00	0.00	5,278.96	263.69	-202.26	14,527,206.96	2,054,968.52	39° 59' 37.468 N	109° 31' 11.748 W
5,400.00	0.00	0.00	5,378.96	263.69	-202.26	14,527,206.96	2,054,968.52	39° 59' 37.468 N	109° 31' 11.748 W
5,500.00	0.00	0.00	5,478.96	263.69	-202.26	14,527,206.96	2,054,968.52	39° 59' 37.468 N	109° 31' 11.748 W
5,600.00	0.00	0.00	5,578.96	263.69	-202.26	14,527,206.96	2,054,968.52	39° 59' 37.468 N	109° 31' 11.748 W
5,700.00	0.00	0.00	5,678.96	263.69	-202.26	14,527,206.96	2,054,968.52	39° 59' 37.468 N	109° 31' 11.748 W
5,800.00	0.00	0.00	5,778.96	263.69	-202.26	14,527,206.96	2,054,968.52	39° 59' 37.468 N	109° 31' 11.748 W
5,900.00	0.00	0.00	5,878.96	263.69	-202.26	14,527,206.96	2,054,968.52	39° 59' 37.468 N	109° 31' 11.748 W
6,000.00	0.00	0.00	5,978.96	263.69	-202.26	14,527,206.96	2,054,968.52	39° 59' 37.468 N	109° 31' 11.748 W
6,100.00	0.00	0.00	6,078.96	263.69	-202.26	14,527,206.96	2,054,968.52	39° 59' 37.468 N	109° 31' 11.748 W
6,200.00	0.00	0.00	6,178.96	263.69	-202.26	14,527,206.96	2,054,968.52	39° 59' 37.468 N	109° 31' 11.748 W
6,300.00	0.00	0.00	6,278.96	263.69	-202.26	14,527,206.96	2,054,968.52	39° 59' 37.468 N	109° 31' 11.748 W
6,400.00	0.00	0.00	6,378.96	263.69	-202.26	14,527,206.96	2,054,968.52	39° 59' 37.468 N	109° 31' 11.748 W
6,500.00	0.00	0.00	6,478.96	263.69	-202.26	14,527,206.96	2,054,968.52	39° 59' 37.468 N	109° 31' 11.748 W
6,600.00	0.00	0.00	6,578.96	263.69	-202.26	14,527,206.96	2,054,968.52	39° 59' 37.468 N	109° 31' 11.748 W
6,700.00	0.00	0.00	6,678.96	263.69	-202.26	14,527,206.96	2,054,968.52	39° 59' 37.468 N	109° 31' 11.748 W
6,800.00	0.00	0.00	6,778.96	263.69	-202.26	14,527,206.96	2,054,968.52	39° 59' 37.468 N	109° 31' 11.748 W
6,900.00	0.00	0.00	6,878.96	263.69	-202.26	14,527,206.96	2,054,968.52	39° 59' 37.468 N	109° 31' 11.748 W
7,000.00	0.00	0.00	6,978.96	263.69	-202.26	14,527,206.96	2,054,968.52	39° 59' 37.468 N	109° 31' 11.748 W
7,100.00	0.00	0.00	7,078.96	263.69	-202.26	14,527,206.96	2,054,968.52	39° 59' 37.468 N	109° 31' 11.748 W
7,200.00	0.00	0.00	7,178.96	263.69	-202.26	14,527,206.96	2,054,968.52	39° 59' 37.468 N	109° 31' 11.748 W
7,300.00	0.00	0.00	7,278.96	263.69	-202.26	14,527,206.96	2,054,968.52	39° 59' 37.468 N	109° 31' 11.748 W
7,400.00	0.00	0.00	7,378.96	263.69	-202.26	14,527,206.96	2,054,968.52	39° 59' 37.468 N	109° 31' 11.748 W
7,500.00	0.00	0.00	7,478.96	263.69	-202.26	14,527,206.96	2,054,968.52	39° 59' 37.468 N	109° 31' 11.748 W
7,555.04	0.00	0.00	7,534.00	263.69	-202.26	14,527,206.96	2,054,968.52	39° 59' 37.468 N	109° 31' 11.748 W
<b>MESAVERDE(TOP OF CYLINDER)</b>									
7,600.00	0.00	0.00	7,578.96	263.69	-202.26	14,527,206.96	2,054,968.52	39° 59' 37.468 N	109° 31' 11.748 W
7,700.00	0.00	0.00	7,678.96	263.69	-202.26	14,527,206.96	2,054,968.52	39° 59' 37.468 N	109° 31' 11.748 W
7,800.00	0.00	0.00	7,778.96	263.69	-202.26	14,527,206.96	2,054,968.52	39° 59' 37.468 N	109° 31' 11.748 W
7,900.00	0.00	0.00	7,878.96	263.69	-202.26	14,527,206.96	2,054,968.52	39° 59' 37.468 N	109° 31' 11.748 W
8,000.00	0.00	0.00	7,978.96	263.69	-202.26	14,527,206.96	2,054,968.52	39° 59' 37.468 N	109° 31' 11.748 W
8,100.00	0.00	0.00	8,078.96	263.69	-202.26	14,527,206.96	2,054,968.52	39° 59' 37.468 N	109° 31' 11.748 W
8,200.00	0.00	0.00	8,178.96	263.69	-202.26	14,527,206.96	2,054,968.52	39° 59' 37.468 N	109° 31' 11.748 W
8,300.00	0.00	0.00	8,278.96	263.69	-202.26	14,527,206.96	2,054,968.52	39° 59' 37.468 N	109° 31' 11.748 W
8,400.00	0.00	0.00	8,378.96	263.69	-202.26	14,527,206.96	2,054,968.52	39° 59' 37.468 N	109° 31' 11.748 W
8,500.00	0.00	0.00	8,478.96	263.69	-202.26	14,527,206.96	2,054,968.52	39° 59' 37.468 N	109° 31' 11.748 W
8,600.00	0.00	0.00	8,578.96	263.69	-202.26	14,527,206.96	2,054,968.52	39° 59' 37.468 N	109° 31' 11.748 W
8,700.00	0.00	0.00	8,678.96	263.69	-202.26	14,527,206.96	2,054,968.52	39° 59' 37.468 N	109° 31' 11.748 W
8,800.00	0.00	0.00	8,778.96	263.69	-202.26	14,527,206.96	2,054,968.52	39° 59' 37.468 N	109° 31' 11.748 W
8,900.00	0.00	0.00	8,878.96	263.69	-202.26	14,527,206.96	2,054,968.52	39° 59' 37.468 N	109° 31' 11.748 W
9,000.00	0.00	0.00	8,978.96	263.69	-202.26	14,527,206.96	2,054,968.52	39° 59' 37.468 N	109° 31' 11.748 W
9,100.00	0.00	0.00	9,078.96	263.69	-202.26	14,527,206.96	2,054,968.52	39° 59' 37.468 N	109° 31' 11.748 W
9,200.00	0.00	0.00	9,178.96	263.69	-202.26	14,527,206.96	2,054,968.52	39° 59' 37.468 N	109° 31' 11.748 W

<b>Database:</b>	EDM5000-RobertS-Local	<b>Local Co-ordinate Reference:</b>	Well P_NBU 921-35F4BS
<b>Company:</b>	US ROCKIES REGION PLANNING	<b>TVD Reference:</b>	GL 5120 & KB 14' @ 5134.00ft (ASSUMED)
<b>Project:</b>	UTAH - UTM (feet), NAD27, Zone 12N	<b>MD Reference:</b>	GL 5120 & KB 14' @ 5134.00ft (ASSUMED)
<b>Site:</b>	NBU 921-35F4 PAD	<b>North Reference:</b>	True
<b>Well:</b>	P_NBU 921-35F4BS	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	P_NBU 921-35F4BS		
<b>Design:</b>	PLAN #1 11-8-10 RHS		

Planned Survey									
<b>Measured</b>		<b>Vertical</b>			<b>Map</b>		<b>Map</b>		
Depth (ft)	Inclination (°)	Azimuth (°)	Depth (ft)	+N/S (ft)	+E/W (ft)	Northing (usft)	Easting (usft)	Latitude	Longitude
9,300.00	0.00	0.00	9,278.96	263.69	-202.26	14,527,206.96	2,054,968.52	39° 59' 37.468 N	109° 31' 11.748 W
9,400.00	0.00	0.00	9,378.96	263.69	-202.26	14,527,206.96	2,054,968.52	39° 59' 37.468 N	109° 31' 11.748 W
9,500.00	0.00	0.00	9,478.96	263.69	-202.26	14,527,206.96	2,054,968.52	39° 59' 37.468 N	109° 31' 11.748 W
9,600.00	0.00	0.00	9,578.96	263.69	-202.26	14,527,206.96	2,054,968.52	39° 59' 37.468 N	109° 31' 11.748 W
9,700.00	0.00	0.00	9,678.96	263.69	-202.26	14,527,206.96	2,054,968.52	39° 59' 37.468 N	109° 31' 11.748 W
9,800.00	0.00	0.00	9,778.96	263.69	-202.26	14,527,206.96	2,054,968.52	39° 59' 37.468 N	109° 31' 11.748 W
9,900.00	0.00	0.00	9,878.96	263.69	-202.26	14,527,206.96	2,054,968.52	39° 59' 37.468 N	109° 31' 11.748 W
10,000.00	0.00	0.00	9,978.96	263.69	-202.26	14,527,206.96	2,054,968.52	39° 59' 37.468 N	109° 31' 11.748 W
10,100.00	0.00	0.00	10,078.96	263.69	-202.26	14,527,206.96	2,054,968.52	39° 59' 37.468 N	109° 31' 11.748 W
10,200.00	0.00	0.00	10,178.96	263.69	-202.26	14,527,206.96	2,054,968.52	39° 59' 37.468 N	109° 31' 11.748 W
10,300.00	0.00	0.00	10,278.96	263.69	-202.26	14,527,206.96	2,054,968.52	39° 59' 37.468 N	109° 31' 11.748 W
10,400.00	0.00	0.00	10,378.96	263.69	-202.26	14,527,206.96	2,054,968.52	39° 59' 37.468 N	109° 31' 11.748 W
10,500.00	0.00	0.00	10,478.96	263.69	-202.26	14,527,206.96	2,054,968.52	39° 59' 37.468 N	109° 31' 11.748 W
10,600.00	0.00	0.00	10,578.96	263.69	-202.26	14,527,206.96	2,054,968.52	39° 59' 37.468 N	109° 31' 11.748 W
10,661.04	0.00	0.00	10,640.00	263.69	-202.26	14,527,206.96	2,054,968.52	39° 59' 37.468 N	109° 31' 11.748 W

**PBHL\_NBU 921-35F4BS**

Design Targets										
Target Name		Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/S (ft)	+E/W (ft)	Northing (usft)	Easting (usft)	Latitude	Longitude
- hit/miss target										
- Shape										
PBHL_NBU 921-35F4BS		0.00	0.00	10,640.00	263.69	-202.26	14,527,206.96	2,054,968.52	39° 59' 37.468 N	109° 31' 11.748 W
- plan hits target center										
- Circle (radius 25.00)										

Casing Points									
Measured Depth (ft)	Vertical Depth (ft)	Name			Casing Diameter (in)	Hole Diameter (in)			
2,652.75	2,634.00	8 5/8"				8.625			11.000

Formations									
Measured Depth (ft)	Vertical Depth (ft)	Name			Lithology	Dip (°)	Dip Direction (°)		
1,513.56	1,505.00	GREEN RIVER							
4,802.04	4,781.00	WASATCH							
7,555.04	7,534.00	MESAVERDE(TOP OF CYLINDER)							

<b>Database:</b>	EDM5000-RobertS-Local	<b>Local Co-ordinate Reference:</b>	Well P_NBU 921-35F4BS
<b>Company:</b>	US ROCKIES REGION PLANNING	<b>TVD Reference:</b>	GL 5120 & KB 14' @ 5134.00ft (ASSUMED)
<b>Project:</b>	UTAH - UTM (feet), NAD27, Zone 12N	<b>MD Reference:</b>	GL 5120 & KB 14' @ 5134.00ft (ASSUMED)
<b>Site:</b>	NBU 921-35F4 PAD	<b>North Reference:</b>	True
<b>Well:</b>	P_NBU 921-35F4BS	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	P_NBU 921-35F4BS		
<b>Design:</b>	PLAN #1 11-8-10 RHS		

**Plan Annotations**

<b>Measured Depth (ft)</b>	<b>Vertical Depth (ft)</b>	<b>Local Coordinates</b>			<b>Comment</b>
		<b>+N/S (ft)</b>	<b>+E/W (ft)</b>		
300.00	300.00	0.00	0.00		Start Build 2.00
683.35	682.20	20.32	-15.59		Start 2079.58 hold at 683.35 MD
2,762.93	2,743.20	240.46	-184.45		Start Drop -1.75
3,201.04	3,180.00	263.69	-202.26		Start 7460.00 hold at 3201.04 MD
10,661.04	10,640.00	263.69	-202.26		TD at 10661.04

**NBU 921-35F4BS**

Surface: 2,473' FNL 2,358' FWL (SE/4NW/4)  
BHL: 2,210' FNL 2,158' FWL (SE/4NW/4)

**NBU 921-35F4CS**

Surface: 2,483' FNL 2,358' FWL (SE/4NW/4)  
BHL: 2,567' FNL 2,159' FWL (SE/4NW/4)

**NBU 921-35K1BS**

Surface: 2,493' FNL 2,358' FWL (SE/4NW/4)  
BHL: 2,484' FSL 2,161' FWL (NE/4SW/4)

**NBU 921-35K1CS**

Surface: 2,503' FNL 2,357' FWL (SE/4NW/4)  
BHL: 2,163' FSL 2,155' FWL (NE/4SW/4)

Pad: NBU 921-35F4

Section 35 T9S R21E

Mineral Lease: UO 01194 ST

Uintah County, Utah

Operator: Kerr-McGee Oil & Gas Onshore LP

***MULTI-POINT SURFACE USE PLAN of OPERATIONS (SUPO)***

This SUPO contains surface operating procedures for Kerr-McGee Oil & Gas Onshore LP (KMG), a wholly owned subsidiary of Anadarko Petroleum Corporation (APC) pertaining to actions that involve the State of Utah School and Institutional Trust Lands Administration (SITLA) in the development of minerals leased to APC/KMG (including, but not limited to, APDs/SULAs/ROEs/ROWs and/or easements).

See associated Utah Division of Oil, Gas, and Mining (UDOGM) Form 3(s), plats, maps, and other attachments for site-specific information on projects represented herein.

In accordance with Utah Oil & Gas Conservation Rule R649-3-11 pertaining to Directional Drilling, these wells will be directionally drilled. Refer to Topo Map A for directions to the location and Topo Maps A and B for location of access roads within a 2-mile radius.

**A. Existing Roads:**

Existing roads consist of county roads and improved/unimproved lease roads. APC/KMG will maintain existing roads in a condition that is the same as or better than before operations began and in a safe and usable condition. Maintenance of existing roads will continue until final abandonment and reclamation of well pads and/or other facilities. The road maintenance may include, but is not limited to, blading, ditching, culvert installation/cleanout, surfacing, and dust control.

Typically, roads, gathering lines and electrical distribution lines will occupy common disturbance corridors and roadways will be used as working space. All disturbances located in the same corridor will overlap each

other to the maximum extent possible; in no case will the maximum disturbance width of the access road and utility corridors exceed 50', unless otherwise approved.

**B. Planned Access Roads:**

Approximately  $\pm 275'$  (0.05 miles) of road re-route is proposed (see Topo Map B). Applicable Uintah County encroachment and/or pipeline crossing permits will be obtained prior to construction/development. No other pipelines will be crossed at this location.

Where roads are new or to be reconstructed, they will be located, designed, and maintained to meet the standards of SITLA and other commonly accepted Best Management Practices (BMPs). If a new road/corridor were to cross a water of the United States, KMG will adhere to the requirements of applicable Nationwide or Individual Permits of the Department of Army Corps of Engineers.

Turnouts; major cut and fills; culverts; bridges; gates; cattle guards; low water crossings; or modifications needed to existing infrastructure/facilities were determined at the on-site and, as applicable, are typically shown on attached Exhibits and Topo maps.

**C. Location of Existing and Proposed Facilities:**

This pad will expand the existing pad for the NBU 81V. This well location is a vertical producing well according to Utah Division of Oil, Gas and Mining (UDOGM) records as of November 11, 2010.

Production facilities (see Well Pad Design Summary and Facilities Diagram):

Production facilities will be installed on the disturbed portion of each well pad and may include bermed components (typically excluding dehy's and/or separators) that contain fluids (i.e. production tanks, produced liquids tanks). The berms will be constructed of compacted subsoil or corrugated metal, impervious, designed to hold 110% of the capacity of the largest tank, and be independent of the back cut. All permanent (on-site six months or longer) aboveground structures constructed or installed, including pumping units, will be painted a flat, non-reflective, earth-tone color chosen at the onsite in coordination with SITLA.

Production tanks will be constructed, maintained, and operated to prevent unauthorized surface or subsurface discharges of liquids and to prevent livestock or wildlife entry. The tanks are not to be used for disposal of liquids from additional sources without prior approval of UDOGM.

Gathering facilities:

The following pipeline transmission facilities will apply if the well is productive (see Topo D):

The total gas gathering (steel line pipe with fusion bond epoxy coating) pipeline distances from the meter to the tie in point is  $\pm 1,690'$  and the individual segments are broken up as follows:

- $\pm 270'$  (0.1 miles) –New 6" buried gas pipeline from the meter to the edge of the pad.
- $\pm 70'$  (0.01 miles) –New 6" buried gas pipeline from the edge of pad to the NBU 921-35F2 pad intersection.
- $\pm 1,350'$  (0.3 miles) –New 8" buried gas pipeline from the NBU 921-35F2 pad intersection to the NBU 921-35L pad intersection.

The total liquid gathering pipeline distance from the separator to the tie in point is ±1,690' and the individual segments are broken up as follows:

- ±270' (0.1 miles) –New 6" buried liquid pipeline from the separator to the edge of the pad.
- ±70' (0.01 miles) –New 6" buried liquid pipeline from the edge of pad to the NBU 921-35F2 pad intersection.
- ±1,350' (0.3 miles) –New 6" buried liquid pipeline from the NBU 921-35F2 pad intersection to the NBU 921-35L pad intersection.

The liquid gathering lines will be made of polyethylene or a composite polyethylene/steel or polyethylene/fiberglass that is not subject to internal or external pipe corrosion. The content of the produced fluids to be transferred by the liquid gathering system will be approximately 92% produced water and 8% condensate. Trunk line valve connections for the water gathering system will be below ground but accessible from the surface in order to prevent freezing during winter time.

The proposed pipelines will be buried and will include gas gathering and liquid gathering pipelines in the same trench. Where the pipeline is adjacent to the road or well pad, the road and/or well pad will be utilized for construction activities and staging. Kerr-McGee requests a permanent 30' right-of-way adjacent to the road for life-of-project for maintenance, repairs, and/or upgrades, no additional right-of-way will be needed beyond the 30'. Where the pipeline is not adjacent to the road or well pad, Kerr-McGee requests a temporary 45' construction right-of-way and 30' permanent right-of-way.

The proposed trench width for the pipeline would range from 18-48 inches and will be excavated to a depth of 48 to 60 inches of normal soil cover or 24 inches of cover in consolidated rock. During construction blasting may occur along the proposed right-of-way where trenching equipment cannot cut into the bedrock. Large debris and rocks removed from the earth during trenching and blasting that could not be returned to the trench would be distributed evenly and naturally in the project area. The proposed pipelines will be pressure tested pneumatically (depending on size) or with fluids (either fresh or produced). If fluids are used, there will be no discharge to the surface.

Pipeline signs will be installed along the right-of-way to indicate the pipeline proximity, ownership, and to provide emergency contact phone numbers. Above ground valves, T's, and/or cathodic protection will be installed at various locations for connection, corrosion prevention and/or for safety purposes.

#### **D. Location and Type of Water Supply:**

Water for drilling purposes will be obtained from one of the following sources:

- Dalbo Inc.'s underground well located in Ouray, Utah, Sec. 32 T4S R3E, Water User Claim number 43-8496, application number 53617.
- Price Water Pumping Inc. Green River and White River, various sources, Water Right Number 49-1659, application number: a35745.

Water will be hauled to location over the roads marked on Maps A and B.

No water well is to be drilled on this lease.

**E. Source of Construction Materials:**

Construction operations will typically be completed with native materials found on location. If needed, construction materials that must be imported to the site (mineral material aggregate, soils or materials suitable for fill/surfacing) will be obtained from a nearby permitted source and described in subsequent Sundry requests. No construction materials will be removed from State lands without prior approval from SITLA.

**F. Methods of Handling Waste Materials:**

Should the well be productive, produced water will be contained in a water tank and will be transported by pipeline and/or truck to an approved disposal sites facilities and/or Salt Water Disposal (SWD) injection well. Currently, those facilities are:

RNI in Sec. 5 T9S R22E  
Ace Oilfield in Sec. 2 T6S R20E  
MC&MC in Sec. 12 T6S R19E  
Pipeline Facility in Sec. 36 T9S R20E  
Goat Pasture Evaporation Pond in SW/4 Sec. 16 T10S R22E  
Bonanza Evaporation Pond in Sec. 2 T10S R23E  
Ouray #1 SWD in Sec. 1 T9S R21E  
NBU 159 SWD in Sec. 35 T9S R21E  
CIGE 112D SWD in Sec. 19 T9S R21E  
CIGE 114 SWD in Sec. 34 T9S R21E  
NBU 921-34K SWD in Sec. 34 T9S R21E  
NBU 921-33F SWD in Sec. 33 T9S R21E  
NBU 921-34L SWD in Sec. 34 T9S R21E

Drill cuttings and/or fluids will be contained in the reserve/frac pit. Cuttings will be buried in pit(s) upon closure. Unless otherwise approved, no oil or other oil-based drilling additives, chromium/metals-based, or saline muds will be used during drilling. Only fresh water (as specified above), biodegradable polymer soap, bentonite clay, and/or non-toxic additives will be used in the mud system.

Pits will be constructed to minimize the accumulation of surface runoff. Should fluid hydrocarbons be encountered during drilling, completions or well testing, product will either be contained in test tanks on the well site or evacuated by vacuum trucks and transported to an approved disposal/sales facility. Should petroleum hydrocarbons unexpectedly be released into a pit, they will be removed as soon as practical but in no case will they remain longer than 72 hours unless an alternate is approved by SITLA. Should timely removal prove infeasible, the pit will be netted with mesh no larger than 1 inch until such time as hydrocarbons can be removed. Hydrocarbon removal will also take place prior to the closure of the pit, unless authorization is provided for disposal via alternative pit closure methods (e.g. solidification).

The reserve and/or fracture stimulation pit will be lined with a synthetic material 20-mil or thicker. The liner will be installed over smooth fill subgrade that is free of pockets, loose rocks, or other materials (i.e. sand, sifted dirt, bentonite, straw, etc.) that could damage the liner. Any additional pits necessary to subsequent operations, such as temporary flare or workover pits, will be contained within the originally approved well pad and disturbance boundaries. Such temporary pits will be backfilled and reclaimed within 180 days of completion of work at a well location.

For the protection of livestock and wildlife, all open pits and cellars will be fenced/covered to prevent wildlife or livestock entry. Total height of pit fencing will be at least 42 inches and corner posts will be cemented and/or braced in such a manner as to keep the fence tight at all times. Standard steel, wood, or pipe posts shall be used between the corner braces. Maximum distance between any 2 fence posts shall be no greater than 16 feet.

Pits containing drilling cuttings, mud, and/or completions fluids will be allowed to dry. Any free fluids remaining after six (6) months from reaching total depth, date of completion, and/or determination of inactivity will be removed (as weather conditions allow) to an approved site and the pit reclaimed. Additional drying methods may include fly-ash solidification or sprinkler evaporation. Installation and operation of any sprinklers, pumps, and equipment will ensure that water spray or mist does not drift. Reserve pit liners will be cut off or folded as near to the mud surface as possible and as safety considerations allow and buried on location.

No garbage or non-exempt substances as defined by Resource Conservation and Recovery Act (RCRA) subtitle C will be placed in the reserve pit. All refuse generated during construction, drilling, completion, and well testing activities will be contained in an enclosed receptacle, removed from the drill locations promptly, and transported to an approved disposal facility.

Portable, self-contained chemical toilets and/or sewage processing facilities will be provided for human waste disposal. Upon completion of operations, or as required, the toilet holding tanks will be pumped and the contents disposed of in an approved sewage disposal facility. All applicable regulations pertaining to disposal of human and solid waste will be observed.

Any undesirable event, accidental release, or in excess of reportable quantities will be managed according to the notification requirements of UDOGMs “Reporting Oil and Gas Undesirable Events” rule, and, where State wells are participatory to a Federal agreement, according to NTL-3A.

### **Materials Management**

Hazardous materials above reportable quantities will not be produced by drilling or completing proposed wells or constructing the pipelines/facilities. The term “hazardous materials” as used here means: (1) any substance, pollutant, or containment listed as hazardous under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) of 1980, as amended 42 U.S.C. 9601 et seq., and the regulations issued under CERCLA; and (2) any hazardous waste as defined in RCRA of 1976, as amended. In addition,

no extremely hazardous substance, as defined in 40 CFR 355, in threshold planning quantities, would be used, produced, stored, transported, or disposed of while producing any well.

Chemicals subject to reporting under Title III of the Superfund Amendments and Reauthorization Act (SARA) in quantities of 10,000 pounds or more may be produced and/or stored at production facilities and may be kept in limited quantities on drilling sites and well locations for short periods of time during drilling or completion activities.

**G. Ancillary Facilities:**

None are anticipated.

**H. Well Site Layout (see Well Pad Design Summary):**

The location, orientation and aerial extent of each drill pad; reserve/completion/flare pit; access road ingress/egress points, drilling rig, dikes/ditches, existing wells/infrastructure; proposed cuts and fills; and topsoil and spoil material stockpile locations are depicted on the exhibits for each project, where applicable. Site-specific conditions may require slight deviation in actual equipment and facility layout; however, the area of disturbance, as described in the survey, will not be exceeded.

Coordinates are provided in the National Spatial Reference System, North American Datum, 1983 (NAD83) or latest edition. Distances are depicted on each plat to the nearest two adjacent section lines.

**I. Plans for Reclamation of the Surface:**

Surface reclamation will be undertaken in two phases: interim and final. Interim reclamation is conducted following well completion and extends through the period of production. This reclamation is for the area of the well pad that is not required for production activities. Final reclamation is conducted following well plugging/conversion and/or facility abandonment processes.

Reclamation activities in both phases may include but are not limited to: re-contouring or re-configuration of topographic surfaces, restoration of drainage systems, segregation of spoils materials, minimizing surface disturbance, re-evaluating backfill requirements, pit closure, topsoil redistribution, soil treatments, seeding and weed control.

**Interim Reclamation**

Interim reclamation includes pit closure, re-contouring (where possible), soil bed preparation, topsoil placement, seeding, and/or weed control.

Interim re-contouring involves bringing all construction material from cuts and fills back onto the well pad and site and reestablishing the natural contours where desirable and practical. Fill and stockpiled spoils no longer necessary to the operation will be spread on the cut slopes and covered with stockpiled topsoil. All stockpiled top soils will be used for interim reclamation where practical to maintain soil viability. Where

possible, the land surface will be left “rough” after re-contouring to ensure that the maximum surface area will be available to support the reestablishment of vegetative cover.

A reserve pit, upon being allowed to dry, will be backfilled and compacted with cover materials that are void of any topsoil, vegetation, large stones, rocks or foreign objects. Soils that are moisture laden, saturated, or partially/completely frozen will not be used for backfill or cover. The pit area will be mounded to allow for settling and to promote positive surface drainage away from the pit.

### **Final Reclamation**

Final reclamation will be performed for newly drilled unproductive wells and/or at the end of the life of a productive well. As soon as practical after the conclusion of drilling and testing operations, unproductive drill holes will be plugged and abandoned (P&A). Site and road reclamation will commence following plugging. In no case will reclamation at non-producing locations be initiated later than six (6) months from the date a well is plugged. A joint inspection of the disturbed area to be reclaimed may be requested by APC/KMG. The primary purpose of this inspection will be to review the existing conditions, or agree upon a revised final reclamation and abandonment plan. A Notice of Intent to Abandon will be filed for final recommendations regarding surface reclamation.

After plugging, all wellhead equipment that is no longer needed will be removed, and the well site will be reclaimed. Final contouring will blend with and follow as closely as practical the natural terrain and contours of the original site and surrounding areas. After re-contouring, final grading will be conducted over the entire surface of the well site and access road. Where practical, the area will be ripped to a depth of 18 to 24 inches on 18 to 24-inch centers and surface materials will be pitted with small depressions to form longitudinal depressions 12 to 18 inches deep perpendicular to the natural flow of water.

All unnecessary surface equipment and structures (e.g. cattle guards) and water control structures (e.g. culverts, drainage pipes) not needed to facilitate successful reclamation will be removed during final reclamation. Roads that will be reclaimed will be ripped to a depth of 18 inches where practical, re-contoured to approximate the original contour of the ground and seeded.

Upon successfully completing reclamation of a P&A location, a Final Abandonment Notice will be submitted to UDOGM.

### **Seeding and Measures Common to Interim and Final Reclamation**

Reclaimed areas may be fenced to exclude grazing and encourage re-vegetation.

On slopes where severe erosion can become a problem and the use of machinery is not practical, seed will be hand broadcast and raked with twice the specified amount of seed. The slope will be stabilized using materials specifically designed to prevent erosion on steep slopes and hold seed in place so vegetation can become permanently established. These materials will include, but are not limited to, erosion control blankets and bonded fiber matrix at a rate to achieve a minimum of 80 percent soil coverage.

**NBU 921-35F4BS / 35F4CS/ 35K1BS/ 35K1CS**

**Surface Use Plan of Operations**

**Page 8**

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Seeding will occur year-round as conditions allow. Seed mixes appropriate to the native plant community as determined and specified for each project location based on the site specific soils will be used for re-vegetation. The site specific seed mix will be provided by SITLA.

**J.      Surface/Mineral Ownership:**

SITLA  
675 East 500 South, Suite 500  
Salt Lake City, UT 84102

**K.      Other Information:**

None

**M. Lessee's or Operators' Representative & Certification:**

Danielle Piernot Regulatory Analyst I Kerr-McGee Oil & Gas Onshore LP PO Box 173779 Denver, CO 80217-3779 (720) 929-6156	Tommy Thompson General Manager, Drilling Kerr-McGee Oil & Gas Onshore LP PO Box 173779 Denver, CO 80217-3779 (720) 929-6724
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Certification: All lease and/or unit operations will be conducted in such a manner that full compliance is made with all applicable laws, regulations, Onshore Oil and Gas Orders, the approved Plan of Operations, and any applicable Notice to Lessees.

The Operator will be fully responsible for the actions of its subcontractors. A complete copy of the approved "Application for Permit to Drill" will be furnished to the field representative(s) to ensure compliance and shall be on location during all construction and drilling operations.

Kerr-McGee Oil & Gas Onshore LP is considered to be the operator of the subject well. Kerr-McGee Oil & Gas Onshore LP agrees to be responsible under terms and conditions of the lease for the operations conducted upon leased lands.

Bond coverage for State lease activities is provided by State Surety Bond 22013542, and for applicable Federal lease activities and pursuant to 43 CFR 3104, by Bureau of Land Management Nationwide Bond WYB000291.

I hereby certify that I, or persons under my supervision, have inspected the proposed drill site and access route, that I am familiar with the conditions that currently exist; that I have full knowledge of the State and Federal laws applicable to this operation; that the statements made in this plan are, to the best of my knowledge, true and correct; and the work associated with the operations proposed herein will be performed in conformity with this APD package and the terms and conditions under which it is approved. I also certify that I, or the company I represent, am responsible for operations conducted under this application. These statements are subject to the provisions of 18 U.S.C. 1001 for the filing of false statements.



Danielle Piernot

November 19, 2010

Date



Kerr-McGee Oil & Gas Onshore LP  
PO Box 173779  
DENVER, CO 80217-3779

October 25, 2010

Ms. Diana Mason  
Division of Oil, Gas and Mining  
P.O. Box 145801  
Salt Lake City, UT 84114-6100

Re: Directional Drilling R649-3-11  
NBU 921-35F4BS  
T9S-R21E  
Section 35: SENEW (Surf), SENEW (Bottom)  
Surface: 2473' FNL, 2358' FWL  
Bottom Hole: 2210' FNL, 2158' FWL  
Uintah County, Utah

Dear Ms. Mason:

Pursuant to the filing of Kerr-McGee Oil & Gas Onshore LP's (Kerr-McGee) Application for Permit to Drill regarding the above referenced well, we are hereby submitting this letter in accordance with Oil & Gas Conservation Rule R649-3-11 pertaining to Directional Drilling.

- Kerr-McGee's NBU 921-35F4BS is located within the Natural Buttes Unit area.
- Kerr-McGee is permitting this well as a directional well in order to minimize surface disturbance. Locating the well at the surface location and directionally drilling from this location, Kerr-McGee will be able to utilize the existing road and pipelines in the area.
- Furthermore, Kerr-McGee certifies that it is the sole working interest owner within 460 feet of the entire directional well bore.

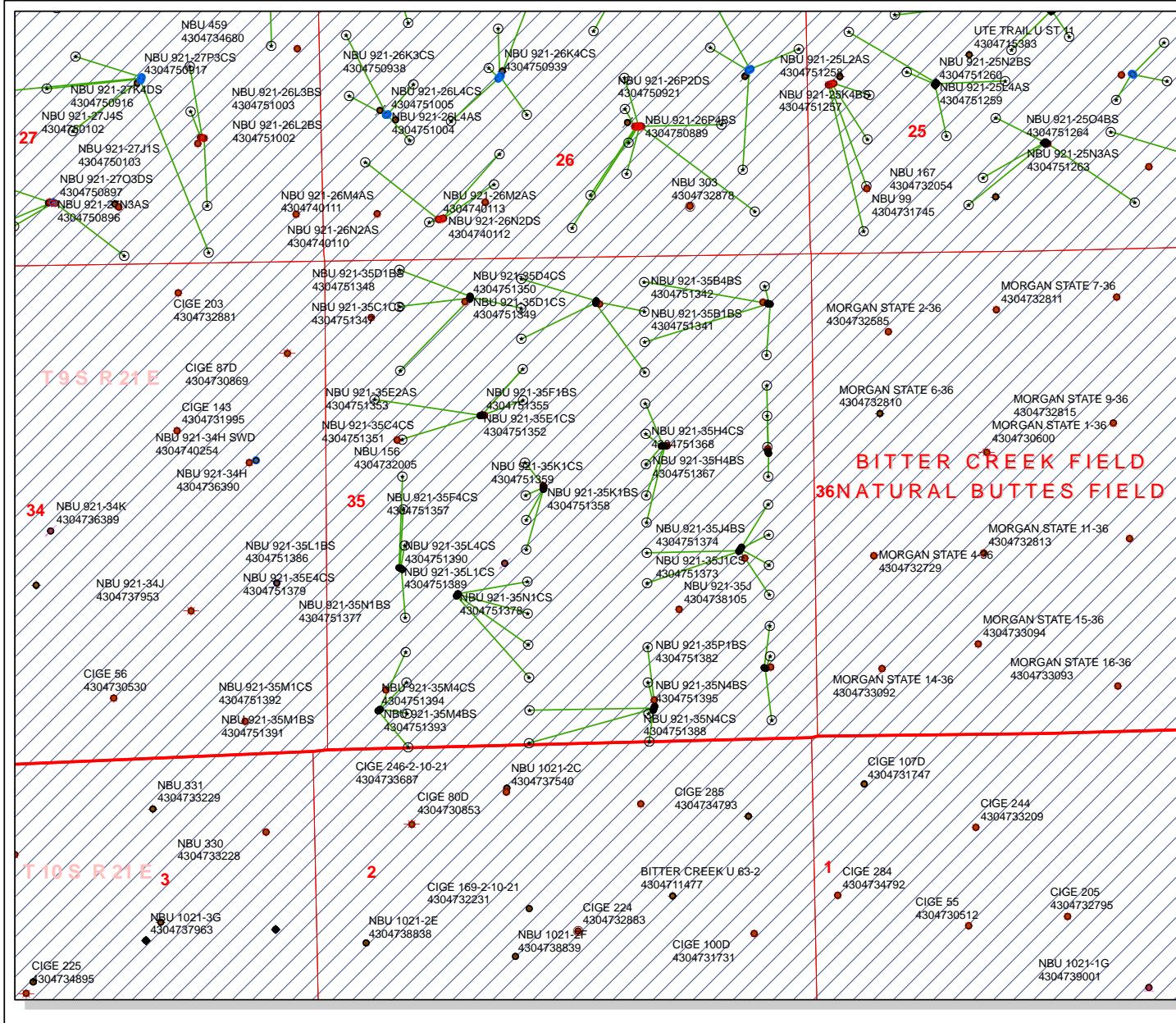
Therefore, based on the above stated information, Kerr-McGee Oil & Gas Onshore LP requests the permit be granted pursuant to R649-3-11.

Sincerely,

KERR-MCGEE OIL & GAS ONSHORE LP

A handwritten signature in blue ink that reads "Joe Matney".

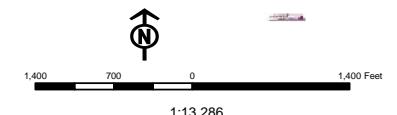
Joe Matney  
Sr. Staff Landman



**API Number: 4304751356**  
**Well Name: NBU 921-35F4BS**  
**Township 09 S Range 21.0 E Section 35**  
**Meridian: SLBM**  
**Operator: KERR-MCGEE OIL & GAS ONSHORE, L.P.**

Map Prepared:  
 Map Produced by Diana Mason

Units	Wells Query
STATUS	<input checked="" type="checkbox"/> ACTIVE
	<input type="checkbox"/> EXPLORATORY
	<input type="checkbox"/> GAS STORAGE
	<input type="checkbox"/> NF PP OIL
	<input type="checkbox"/> NF SECONDARY
	<input type="checkbox"/> PI OIL
	<input type="checkbox"/> PG-GAS
	<input type="checkbox"/> PG-EOTHERM
	<input type="checkbox"/> PG-OIL
	<input type="checkbox"/> SECONDARY
	<input type="checkbox"/> TERMINATED
Fields	<input checked="" type="checkbox"/> *all other values*
Sections	<input type="checkbox"/> ACTIVE
Township	<input type="checkbox"/> EXPLORATORY
	<input type="checkbox"/> GAS STORAGE
	<input type="checkbox"/> NF PP OIL
	<input type="checkbox"/> NF SECONDARY
	<input type="checkbox"/> PI OIL
	<input type="checkbox"/> PG-GAS
	<input type="checkbox"/> PG-EOTHERM
	<input type="checkbox"/> PG-OIL
	<input type="checkbox"/> SECONDARY
	<input type="checkbox"/> TERMINATED
Wells	<input type="checkbox"/> *all other values*
Status	<input type="checkbox"/> APD - Approved Permit <input type="checkbox"/> DRL - Spudled (Drilling Commenced) <input type="checkbox"/> GIW - Gas Injection <input checked="" type="checkbox"/> GS - Gas Storage <input type="checkbox"/> LOC - New Location <input type="checkbox"/> LA - Location Abandoned <input type="checkbox"/> LOC - New Location <input type="checkbox"/> OPS - Operation Suspended <input type="checkbox"/> PA - Plugged Abandoned <input checked="" type="checkbox"/> PGW - Producing Gas Well <input checked="" type="checkbox"/> PW - Producing Oil Well <input type="checkbox"/> RET - Returned APO <input type="checkbox"/> SGW - Shut-in Gas Well <input checked="" type="checkbox"/> SOW - Shut-in Oil Well <input type="checkbox"/> TA - Temp. Abandoned <input type="checkbox"/> TW - Test Well <input type="checkbox"/> WDW - Water Disposal <input type="checkbox"/> WW - Water Injection Well <input checked="" type="checkbox"/> WSW - Water Supply Well
Bottom Hole Location - AGRC	<input type="checkbox"/>



# United States Department of the Interior

## BUREAU OF LAND MANAGEMENT

Utah State Office  
P.O. Box 45155  
Salt Lake City, Utah 84145-0155

IN REPLY REFER TO:  
3160  
(UT-922)

December 1, 2010

Memorandum

To: Assistant District Manager Minerals, Vernal District  
From: Michael Coulthard, Petroleum Engineer  
Subject: 2010 Plan of Development Natural Buttes Unit  
Uintah County, Utah.

Pursuant to email between Diana Whitney, Division of Oil, Gas and Mining, and Mickey Coulthard, Utah State Office, Bureau of Land Management, the following wells are planned for calendar year 2010 within the Natural Buttes Unit, Uintah County, Utah.

API #	WELL NAME	LOCATION
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(Proposed PZ WASATCH-MESA VERDE)

### NBU 921-35F2 Pad

43-047-51355 NBU 921-35F1BS Sec 35 T09S R21E 1684 FNL 1709 FWL  
BHL Sec 35 T09S R21E 1531 FNL 2146 FWL

### NBU 921-35F4 PAD

43-047-51356 NBU 921-35F4BS Sec 35 T09S R21E 2473 FNL 2358 FWL  
BHL Sec 35 T09S R21E 2210 FNL 2158 FWL

43-047-51357 NBU 921-35F4CS Sec 35 T09S R21E 2483 FNL 2358 FWL  
BHL Sec 35 T09S R21E 2567 FNL 2159 FWL

43-047-51358 NBU 921-35K1BS Sec 35 T09S R21E 2493 FNL 2358 FWL  
BHL Sec 35 T09S R21E 2484 FSL 2161 FWL

43-047-51359 NBU 921-35K1CS Sec 35 T09S R21E 2503 FNL 2357 FWL  
BHL Sec 35 T09S R21E 2163 FSL 2155 FWL

### NBU 921-35G Pad

43-047-51360 NBU 921-35G1BS Sec 35 T09S R21E 2053 FNL 1633 FEL  
BHL Sec 35 T09S R21E 1583 FNL 1819 FEL

43-047-51361 NBU 921-35G1CS Sec 35 T09S R21E 2053 FNL 1653 FEL  
BHL Sec 35 T09S R21E 1916 FNL 1820 FEL

43-047-51362 NBU 921-35G4BS Sec 35 T09S R21E 2053 FNL 1643 FEL  
BHL Sec 35 T09S R21E 2250 FNL 1822 FEL

API #	WELL NAME	LOCATION
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(Proposed PZ WASATCH-MESA VERDE)

43-047-51363	NBU 921-35G4CS	Sec 35 T09S R21E 2053 FNL 1623 FEL
	BHL Sec 35 T09S R21E 2583 FNL 1823 FEL	

43-047-51364	NBU 921-35J1BS	Sec 35 T09S R21E 2053 FNL 1613 FEL
	BHL Sec 35 T09S R21E 2419 FSL 1824 FEL	

**NBU 921-35H PAD**

43-047-51365	NBU 921-35H1BS	Sec 35 T09S R21E 2143 FNL 0486 FEL
	BHL Sec 35 T09S R21E 1411 FNL 0494 FEL	

43-047-51366	NBU 921-35H1CS	Sec 35 T09S R21E 2133 FNL 0490 FEL
	BHL Sec 35 T09S R21E 1743 FNL 0495 FEL	

43-047-51367	NBU 921-35H4BS	Sec 35 T09S R21E 2124 FNL 0493 FEL
	BHL Sec 35 T09S R21E 2075 FNL 0495 FEL	

43-047-51368	NBU 921-35H4CS	Sec 35 T09S R21E 2152 FNL 0483 FEL
	BHL Sec 35 T09S R21E 2407 FNL 0495 FEL	

**NBU 921-35I PAD**

43-047-51369	NBU 921-35I1BS	Sec 35 T09S R21E 2106 FSL 0794 FEL
	BHL Sec 35 T09S R21E 2572 FSL 0496 FEL	

43-047-51370	NBU 921-35I1CS	Sec 35 T09S R21E 2098 FSL 0800 FEL
	BHL Sec 35 T09S R21E 2240 FSL 0496 FEL	

43-047-51371	NBU 921-35I4BS	Sec 35 T09S R21E 2090 FSL 0806 FEL
	BHL Sec 35 T09S R21E 1908 FSL 0496 FEL	

43-047-51372	NBU 921-35I4CS	Sec 35 T09S R21E 2082 FSL 0811 FEL
	BHL Sec 35 T09S R21E 1577 FSL 0497 FEL	

43-047-51373	NBU 921-35J1CS	Sec 35 T09S R21E 2074 FSL 0817 FEL
	BHL Sec 35 T09S R21E 2086 FSL 1825 FEL	

43-047-51374	NBU 921-35J4BS	Sec 35 T09S R21E 2066 FSL 0823 FEL
	BHL Sec 35 T09S R21E 1752 FSL 1826 FEL	

**NBU 921-35K PAD**

43-047-51375	NBU 921-35K4BS	Sec 35 T09S R21E 1710 FSL 1409 FWL
	BHL Sec 35 T09S R21E 1814 FSL 2165 FWL	

43-047-51376	NBU 921-35K4CS	Sec 35 T09S R21E 1702 FSL 1403 FWL
	BHL Sec 35 T09S R21E 1469 FSL 2163 FWL	

43-047-51377	NBU 921-35N1BS	Sec 35 T09S R21E 1694 FSL 1397 FWL
	BHL Sec 35 T09S R21E 1124 FSL 2161 FWL	

43-047-51378	NBU 921-35N1CS	Sec 35 T09S R21E 1686 FSL 1392 FWL
	BHL Sec 35 T09S R21E 0771 FSL 2162 FWL	

API #	WELL NAME	LOCATION
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**NBU 921-35L PAD**

43-047-51379	NBU 921-35E4CS	Sec 35 T09S R21E 2016 FSL 0768 FWL BHL Sec 35 T09S R21E 2343 FNL 0823 FWL
43-047-51386	NBU 921-35L1BS	Sec 35 T09S R21E 2013 FSL 0778 FWL BHL Sec 35 T09S R21E 2658 FSL 0826 FWL
43-047-51389	NBU 921-35L1CS	Sec 35 T09S R21E 2009 FSL 0787 FWL BHL Sec 35 T09S R21E 2255 FSL 0835 FWL
43-047-51390	NBU 921-35L4CS	Sec 35 T09S R21E 2005 FSL 0796 FWL BHL Sec 35 T09S R21E 1470 FSL 0832 FWL

**NBU 921-35P PAD**

43-047-51380	NBU 921-35P4CS	Sec 35 T09S R21E 0781 FSL 0557 FEL BHL Sec 35 T09S R21E 0208 FSL 0489 FEL
43-047-51381	NBU 921-35P1CS	Sec 35 T09S R21E 0778 FSL 0547 FEL BHL Sec 35 T09S R21E 0913 FSL 0497 FEL
43-047-51382	NBU 921-35P1BS	Sec 35 T09S R21E 0785 FSL 0566 FEL BHL Sec 35 T09S R21E 1245 FSL 0497 FEL

**NBU 921-35O PAD**

43-047-51383	NBU 921-35O4CS	Sec 35 T09S R21E 0360 FSL 1780 FEL BHL Sec 35 T09S R21E 0026 FSL 1826 FEL
43-047-51384	NBU 921-35O4BS	Sec 35 T09S R21E 0370 FSL 1777 FEL BHL Sec 35 T09S R21E 0336 FSL 1833 FEL
43-047-51385	NBU 921-35O1CS	Sec 35 T09S R21E 0398 FSL 1766 FEL BHL Sec 35 T09S R21E 0674 FSL 1828 FEL
43-047-51387	NBU 921-35O1BS	Sec 35 T09S R21E 0407 FSL 1763 FEL BHL Sec 35 T09S R21E 1059 FSL 1833 FEL
43-047-51388	NBU 921-35N4CS	Sec 35 T09S R21E 0379 FSL 1773 FEL BHL Sec 35 T09S R21E 0051 FSL 2153 FWL

43-047-51395	NBU 921-35N4BS	Sec 35 T09S R21E 0388 FSL 1770 FEL BHL Sec 35 T09S R21E 0410 FSL 2164 FWL
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**NBU 921-35M PAD**

43-047-51391	NBU 921-35M1BS	Sec 35 T09S R21E 0469 FSL 0526 FWL BHL Sec 35 T09S R21E 1096 FSL 0830 FWL
43-047-51392	NBU 921-35M1CS	Sec 35 T09S R21E 0474 FSL 0534 FWL BHL Sec 35 T09S R21E 0760 FSL 0830 FWL

API #	WELL NAME	LOCATION
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43-047-51393	NBU 921-35M4BS	Sec 35 T09S R21E 0478 FSL 0543 FWL BHL Sec 35 T09S R21E 0423 FSL 0831 FWL
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43-047-51394	NBU 921-35M4CS	Sec 35 T09S R21E 0464 FSL 0517 FWL BHL Sec 35 T09S R21E 0055 FSL 0834 FWL
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This office has no objection to permitting the wells at this time.

**Michael L. Coulthard**

Digitally signed by Michael L. Coulthard  
DN: cn=Michael L. Coulthard, o=Bureau of Land Management, ou=Branch of  
Minerals, email=Michael\_Coulthard@blm.gov, c=US  
Date: 2010.12.01 10:03:00 -07'00'

bcc: File - Natural Buttes Unit  
Division of Oil Gas and Mining  
Central Files  
Agr. Sec. Chron  
Fluid Chron

MCoulthard:mc:12-1-10

Well Name	KERR-MCGEE OIL & GAS ONSHORE, L.P. NBU 921-35F4BS 4304751356			
String	Surf	Prod		
Casing Size("")	9.625	4.500		
Setting Depth (TVD)	2611	10640		
Previous Shoe Setting Depth (TVD)	40	2611		
Max Mud Weight (ppg)	8.3	13.0		
BOPE Proposed (psi)	500	5000		
Casing Internal Yield (psi)	3520	10690		
Operators Max Anticipated Pressure (psi)	7071	12.8		

Calculations	Surf String	9.625	"
Max BHP (psi)	.052*Setting Depth*MW=	1131	
			<b>BOPE Adequate For Drilling And Setting Casing at Depth?</b>
MASP (Gas) (psi)	Max BHP-(0.12*Setting Depth)=	818	NO air drill
MASP (Gas/Mud) (psi)	Max BHP-(0.22*Setting Depth)=	557	NO OK
			<b>*Can Full Expected Pressure Be Held At Previous Shoe?</b>
Pressure At Previous Shoe	Max BHP-.22*(Setting Depth - Previous Shoe Depth)=	565	NO Reasonable depth in area
Required Casing/BOPE Test Pressure=		2464	psi
*Max Pressure Allowed @ Previous Casing Shoe=		40	psi *Assumes 1psi/ft frac gradient

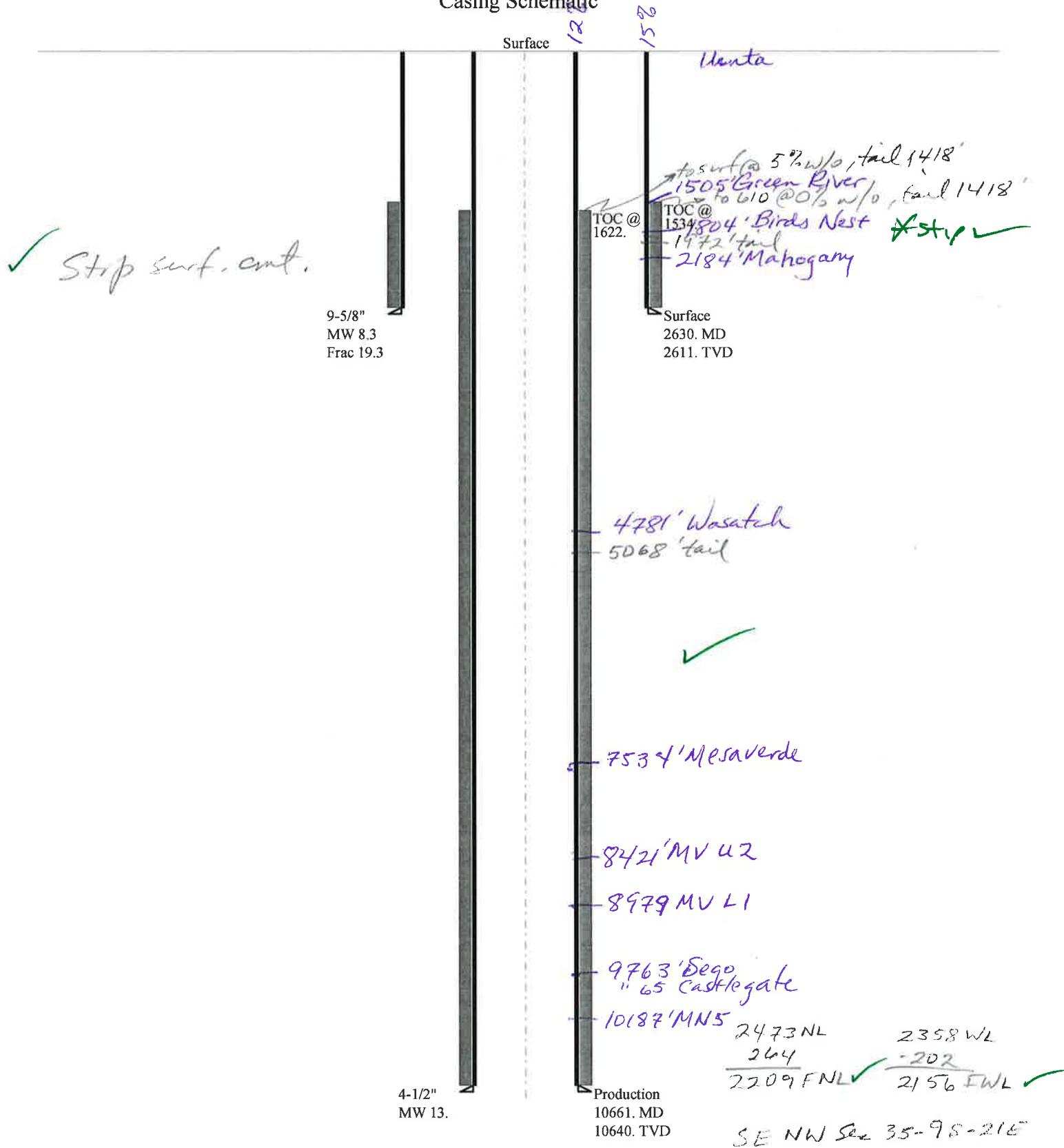
Calculations	Prod String	4.500	"
Max BHP (psi)	.052*Setting Depth*MW=	7193	
			<b>BOPE Adequate For Drilling And Setting Casing at Depth?</b>
MASP (Gas) (psi)	Max BHP-(0.12*Setting Depth)=	5916	NO
MASP (Gas/Mud) (psi)	Max BHP-(0.22*Setting Depth)=	4852	YES OK
			<b>*Can Full Expected Pressure Be Held At Previous Shoe?</b>
Pressure At Previous Shoe	Max BHP-.22*(Setting Depth - Previous Shoe Depth)=	5427	NO Reasonable
Required Casing/BOPE Test Pressure=		5000	psi
*Max Pressure Allowed @ Previous Casing Shoe=		2611	psi *Assumes 1psi/ft frac gradient

Calculations	String		"
Max BHP (psi)	.052*Setting Depth*MW=		
			<b>BOPE Adequate For Drilling And Setting Casing at Depth?</b>
MASP (Gas) (psi)	Max BHP-(0.12*Setting Depth)=		NO
MASP (Gas/Mud) (psi)	Max BHP-(0.22*Setting Depth)=		NO
			<b>*Can Full Expected Pressure Be Held At Previous Shoe?</b>
Pressure At Previous Shoe	Max BHP-.22*(Setting Depth - Previous Shoe Depth)=		NO
Required Casing/BOPE Test Pressure=			psi
*Max Pressure Allowed @ Previous Casing Shoe=			psi *Assumes 1psi/ft frac gradient

Calculations	String		"
Max BHP (psi)	.052*Setting Depth*MW=		
			<b>BOPE Adequate For Drilling And Setting Casing at Depth?</b>
MASP (Gas) (psi)	Max BHP-(0.12*Setting Depth)=		NO
MASP (Gas/Mud) (psi)	Max BHP-(0.22*Setting Depth)=		NO
			<b>*Can Full Expected Pressure Be Held At Previous Shoe?</b>
Pressure At Previous Shoe	Max BHP-.22*(Setting Depth - Previous Shoe Depth)=		NO
Required Casing/BOPE Test Pressure=			psi
*Max Pressure Allowed @ Previous Casing Shoe=			psi *Assumes 1psi/ft frac gradient

## 43047513560000 NBU 921-35F4BS

Casing Schematic



Well name:	43047513560000 NBU 921-35F4BS		
Operator:	KERR-MCGEE OIL & GAS ONSHORE, L.P.		
String type:	Surface		
Location:	UINTAH	COUNTY	Project ID: 43-047-51356

<b>Design parameters:</b>		<b>Minimum design factors:</b>		<b>Environment:</b>	
<b><u>Collapse</u></b>		<b><u>Collapse:</u></b>		<b>H2S considered?</b>	
Mud weight:	8.330 ppg	Design factor	1.125	No	
Design is based on evacuated pipe.				Surface temperature:	74 °F
		<b><u>Burst:</u></b>		Bottom hole temperature:	111 °F
		Design factor	1.00	Temperature gradient:	1.40 °F/100ft
				Minimum section length:	100 ft
<b><u>Burst</u></b>		<b><u>Tension:</u></b>		<b>Cement top:</b>	
Max anticipated surface pressure:	2,314 psi	8 Round STC:	1.80 (J)	<b>Directional Info - Build &amp; Drop</b>	
Internal gradient:	0.120 psi/ft	8 Round LTC:	1.70 (J)	Kick-off point	300 ft
Calculated BHP	2,628 psi	Buttress:	1.60 (J)	Departure at shoe:	285 ft
No backup mud specified.		Premium:	1.50 (J)	Maximum dogleg:	2 °/100ft
		Body yield:	1.50 (B)	Inclination at shoe:	7.67 °
		Tension is based on air weight.		<b>Re subsequent strings:</b>	
		Neutral point:	2,305 ft	Next setting depth:	10,640 ft
				Next mud weight:	13.000 ppg
				Next setting BHP:	7,185 psi
				Fracture mud wt:	19.250 ppg
				Fracture depth:	2,630 ft
				Injection pressure:	2,630 psi

Run Seq	Segment Length (ft)	Size (in)	Nominal Weight (lbs/ft)	Grade	End Finish	True Vert Depth (ft)	Measured Depth (ft)	Drift Diameter (in)	Est. Cost (\$)
1	2630	9.625	36.00	J-55	LT&C	2611	2630	8.796	21507
Run Seq	Collapse Load (psi)	Collapse Strength (psi)	Collapse Design Factor	Burst Load (psi)	Burst Strength (psi)	Burst Design Factor	Tension Load (kips)	Tension Strength (kips)	Tension Design Factor
1	1130	2020	1.788	2628	3520	1.34	94	453	4.82 J

Prepared by: Helen Sadik-Macdonald  
Div of Oil, Gas & Mining

Phone: 801 538-5357  
FAX: 801-359-3940

Date: December 8, 2010  
Salt Lake City, Utah

Remarks:

Collapse is based on a vertical depth of 2611 ft, a mud weight of 8.33 ppg. The casing is considered to be evacuated for collapse purposes. Collapse strength is based on the Westcott, Dunlop & Kemler method of biaxial correction for tension.

Burst strength is not adjusted for tension.

Collapse strength is (biaxially) derated for doglegs in directional wells by multiplying the tensile stress by the cross section area to calculate a

Well name:	<b>43047513560000 NBU 921-35F4BS</b>		
Operator:	<b>KERR-MCGEE OIL &amp; GAS ONSHORE, L.P.</b>		
String type:	Production		Project ID: 43-047-51356
Location:	UINTAH	COUNTY	

**Design parameters:****Collapse**

Mud weight: 13.000 ppg  
 Design is based on evacuated pipe.

**Burst**

Max anticipated surface pressure: 4,845 psi  
 Internal gradient: 0.220 psi/ft  
 Calculated BHP 7,185 psi  
 No backup mud specified.

**Minimum design factors:****Collapse:**

Design factor 1.125

**Burst:**

Design factor 1.00

**Environment:**

H2S considered? No  
 Surface temperature: 74 °F  
 Bottom hole temperature: 223 °F  
 Temperature gradient: 1.40 °F/100ft  
 Minimum section length: 100 ft

Cement top: 1,622 ft

**Directional Info - Build & Drop**

Kick-off point 300 ft  
 Departure at shoe: 332 ft  
 Maximum dogleg: 2 °/100ft  
 Inclination at shoe: 0 °

Tension is based on air weight.

Neutral point: 8,593 ft

Run Seq	Segment Length (ft)	Size (in)	Nominal Weight (lbs/ft)	Grade	End Finish	True Vert Depth (ft)	Measured Depth (ft)	Drift Diameter (in)	Est. Cost (\$)
1	10661	4.5	11.60	HCP-110	Buttress LTC	10640	10661	3.875	54953
Run Seq	Collapse Load (psi)	Collapse Strength (psi)	Collapse Design Factor	Burst Load (psi)	Burst Strength (psi)	Burst Design Factor	Tension Load (kips)	Tension Strength (kips)	Tension Design Factor
1	7185	8650	1.204	7185	10690	1.49	123.4	367.2 279	2.97B 2.26

Prepared Helen Sadik-Macdonald  
 by: Div of Oil, Gas & Mining

Phone: 801 538-5357  
 FAX: 801-359-3940

Date: December 8, 2010  
 Salt Lake City, Utah

**Remarks:**

Collapse is based on a vertical depth of 10640 ft, a mud weight of 13 ppg. The casing is considered to be evacuated for collapse purposes. Collapse strength is based on the Westcott, Dunlop & Kemler method of biaxial correction for tension.

Burst strength is not adjusted for tension.

Collapse strength is (biaxially) derated for doglegs in directional wells by multiplying the tensile stress by the cross section area to calculate a

**From:** Jim Davis  
**To:** Bonner, Ed; Hill, Brad; Mason, Diana  
**CC:** Curry, Kristine; Danielle Piernot; Garrison, LaVonne; Hayden, Martha;...  
**Date:** 12/22/2010 5:49 AM  
**Subject:** Kerr McGee APD approvals in 9S 21E Sec 35  
**Attachments:** KMG approvals 921-35 on 12.22.2010.xls

The following wells have been approved by SITLA under the following arch and paleo stipulations. This is a long list, so I'm attaching a spreadsheet with the same information.

A note on arch and paleo stipulations: Wells that have an arch note "non-significant site" do not need to be avoided or mitigated. Only those that say "needs to be avoided".

The paleo reports make recommendations for "spot paleo monitoring" or "full paleo monitoring". It is my understanding that Kerr McGee is taking these stipulations and doing full monitoring in either case, in an abundance of caution.

-Jim Davis

Well Name	API	Paleo Stipulations	Arch Stipulations
Kerr-McGee's NBU 921-35A1BS (U-07-MQ-1437b,i,p,s)		API #4304751339	IPC 10-98 Spot Paleo Monitoring
Kerr-McGee's NBU 921-35A4CS (U-07-MQ-1437b,i,p,s)		API #4304751340	IPC 10-98 Spot Paleo Monitoring
Kerr-McGee's NBU 921-35B1BS (U-07-MQ-1437b,i,p,s)		API #4304751341	IPC 10-98 Spot Paleo Monitoring
Kerr-McGee's NBU 921-35B4BS (U-07-MQ-1437b,i,p,s)		API #4304751342	IPC 10-98 Spot Paleo Monitoring
Kerr-McGee's NBU 921-35B1CS (U-07-MQ-1437b,i,p,s; eligible site 42Un6461, just south of proposed pipeline needs to be avoided)		API #4304751343	IPC 10-98 Spot Paleo Monitoring
Kerr-McGee's NBU 921-35B4CS (U-07-MQ-1437b,i,p,s; eligible site 42Un6461, just south of proposed pipeline needs to be avoided)		API #4304751344	IPC 10-98 Spot Paleo Monitoring
Kerr-McGee's NBU 921-35C1BS (U-07-MQ-1437b,i,p,s; eligible site 42Un6461, just south of proposed pipeline needs to be avoided)		API #4304751345	IPC 10-98 Spot Paleo Monitoring
Kerr-McGee's NBU 921-35C4BS (U-07-MQ-1437b,i,p,s; eligible site 42Un6461, just south of proposed pipeline needs to be avoided)		API #4304751346	IPC 10-98 Spot Paleo Monitoring
Kerr-McGee's NBU 921-35C1CS (U-07-MQ-1437b,i,p,s)		API #4304751347	IPC 10-97 Full Paleo Monitoring (U-07-
Kerr-McGee's NBU 921-35D1BS (U-07-MQ-1437b,i,p,s)		API #4304751348	IPC 10-97 Full Paleo Monitoring (U-07-
Kerr-McGee's NBU 921-35D1CS (U-07-MQ-1437b,i,p,s)		API #4304751349	IPC 10-97 Full Paleo Monitoring (U-07-
Kerr-McGee's NBU 921-35D4CS (U-07-MQ-1437b,i,p,s)		API #4304751350	IPC 10-97 Full Paleo Monitoring (U-07-
Kerr-McGee's NBU 921-35C4CS (U-07-MQ-1437b,i,p,s)		API #4304751351	IPC 10-97 Full Paleo Monitoring (U-07-
Kerr-McGee's NBU 921-35E1CS (U-07-MQ-1437b,i,p,s)		API #4304751352	IPC 10-97 Full Paleo Monitoring (U-07-
Kerr-McGee's NBU 921-35E2AS (U-07-MQ-1437b,i,p,s)		API #4304751353	IPC 10-97 Full Paleo Monitoring (U-07-
Kerr-McGee's NBU 921-35F1BS (U-07-MQ-1437b,i,p,s)		API #4304751355	IPC 10-97 Full Paleo Monitoring (U-07-
Kerr-McGee's NBU 921-35F4BS (U-07-MQ-1437b,i,p,s)		API #4304751356	IPC 10-97 Full Paleo Monitoring (U-07-
Kerr-McGee's NBU 921-35F4CS (U-07-MQ-1437b,i,p,s)		API #4304751357	IPC 10-97 Full Paleo Monitoring (U-07-
Kerr-McGee's NBU 921-35K1BS		API #4304751358	IPC 10-97 Full Paleo Monitoring (U-07-

MQ-1437b,i,p,s)		
Kerr-McGee's NBU 921-35K1CS	API #4304751359	IPC 10-97 Full Paleo Monitoring (U-07-
MQ-1437b,i,p,s)		
Kerr-McGee's NBU 921-35G1BS	API #4304751360	IPC 10-98 Spot Paleo Monitoring
(U-07-MQ-1437b,i,p,s; 1 non-significant site, 42Un2395, adjacent to the road)		
Kerr-McGee's NBU 921-35G1CS	API #4304751361	IPC 10-98 Spot Paleo Monitoring
(U-07-MQ-1437b,i,p,s; 1 non-significant site, 42Un2395, adjacent to the road)		
Kerr-McGee's NBU 921-35G4BS	API #4304751362	IPC 10-98 Spot Paleo Monitoring
(U-07-MQ-1437b,i,p,s; 1 non-significant site, 42Un2395, adjacent to the road)		
Kerr-McGee's NBU 921-35G4CS	API #4304751363	IPC 10-98 Spot Paleo Monitoring
(U-07-MQ-1437b,i,p,s; 1 non-significant site, 42Un2395, adjacent to the road)		
Kerr-McGee's NBU 921-35J1S	API #4304751364	IPC 10-98 Spot Paleo Monitoring (U-07-
MQ-1437b,i,p,s; 1 non-significant site, 42Un2395, adjacent to the road)		
Kerr-McGee's NBU 921-35H1BS	API #4304751365	IPC 10-98 Spot Paleo Monitoring
(U-07-MQ-1437b,i,p,s)		
Kerr-McGee's NBU 921-35H1CS	API #4304751366	IPC 10-98 Spot Paleo Monitoring
(U-07-MQ-1437b,i,p,s)		
Kerr-McGee's NBU 921-35H4BS	API #4304751367	IPC 10-98 Spot Paleo Monitoring
(U-07-MQ-1437b,i,p,s)		
Kerr-McGee's NBU 921-35H4CS	API #4304751368	IPC 10-98 Spot Paleo Monitoring
(U-07-MQ-1437b,i,p,s)		
Kerr-McGee's NBU 921-35I1BS	API #4304751369	IPC 10-100 Full Paleo Monitoring (U-07-
MQ-1437b,i,p,s)		
Kerr-McGee's NBU 921-35I1CS	API #4304751370	IPC 10-100 Full Paleo Monitoring
(U-07-MQ-1437b,i,p,s)		
Kerr-McGee's NBU 921-35I4BS	API #4304751371	IPC 10-100 Full Paleo Monitoring (U-07-
MQ-1437b,i,p,s)		
Kerr-McGee's NBU 921-35I4CS	API #4304751372	IPC 10-100 Full Paleo Monitoring
(U-07-MQ-1437b,i,p,s)		
Kerr-McGee's NBU 921-35J1CS	API #4304751373	IPC 10-98 Spot Paleo Monitoring
(U-07-MQ-1437b,i,p,s)		
Kerr-McGee's NBU 921-35J4BS	API #4304751374	IPC 10-100 Full Paleo Monitoring
(U-07-MQ-1437b,i,p,s)		
Kerr-McGee's NBU 921-35K4BS	API #4304751375	IPC 10-99 Spot Paleo Monitoring
(U-07-MQ-1437b,i,p,s)		
Kerr-McGee's NBU 921-35K4CS	API #4304751376	IPC 10-99 Spot Paleo Monitoring
(U-07-MQ-1437b,i,p,s)		
Kerr-McGee's NBU 921-35N1BS	API #4304751377	IPC 10-99 Spot Paleo Monitoring
(U-07-MQ-1437b,i,p,s)		
Kerr-McGee's NBU 921-35N1CS	API #4304751378	IPC 10-99 Spot Paleo Monitoring
(U-07-MQ-1437b,i,p,s)		
Kerr-McGee's NBU 921-35E4CS	API #4304751379	IPC 10-99 Spot Paleo Monitoring
(U-07-MQ-1437b,i,p,s)		
Kerr-McGee's NBU 921-35P4CS	API #4304751380	IPC 10-100 Full Paleo Monitoring
(U-07-MQ-1437b,i,p,s)		
Kerr-McGee's NBU 921-35P1CS	API #4304751381	IPC 10-100 Full Paleo Monitoring
(U-07-MQ-1437b,i,p,s)		
Kerr-McGee's NBU 921-35P1BS	API #4304751382	IPC 10-100 Full Paleo Monitoring
(U-07-MQ-1437b,i,p,s)		
Kerr-McGee's NBU 921-35O4CS	API #4304751383	IPC 10-100 Full Paleo Monitoring
(U-07-MQ-1437b,i,p,s; 1 non-significant site, 42Un1836, adjacent to pipeline)		
Kerr-McGee's NBU 921-35O4BS	API #4304751384	IPC 10-100 Full Paleo Monitoring
(U-07-MQ-1437b,i,p,s; 1 non-significant site, 42Un1836, adjacent to pipeline)		
Kerr-McGee's NBU 921-35O1CS	API #4304751385	IPC 10-100 Full Paleo Monitoring
(U-07-MQ-1437b,i,p,s; 1 non-significant site, 42Un1836, adjacent to pipeline)		
Kerr-McGee's NBU 921-35L1BS	API #4304751386	IPC 10-99 Spot Paleo Monitoring

(U-07-MQ-1437b,i,p,s)  
Kerr-McGee's NBU 921-35O1BS API #4304751387 IPC 10-100 Spot Paleo Monitoring  
(U-07-MQ-1437b,i,p,s; 1 non-significant site, 42Un1836, adjacent to pipeline)  
Kerr-McGee's NBU 921-35N4CS API #4304751388 IPC 10-100 Spot Paleo Monitoring  
(U-07-MQ-1437b,i,p,s; 1 non-significant site, 42Un1836, adjacent to pipeline)  
Kerr-McGee's NBU 921-35L1CS API #4304751389 IPC 10-99 Spot Paleo Monitoring  
(U-07-MQ-1437b,i,p,s)  
Kerr-McGee's NBU 921-35L4CS API #4304751390 IPC 10-99 Spot Paleo Monitoring  
(U-07-MQ-1437b,i,p,s)  
Kerr-McGee's NBU 921-35M1BS API #4304751391 IPC 10-99 Spot Paleo Monitoring  
(U-07-MQ-1437b,i,p,s)  
Kerr-McGee's NBU 921-35M1CS API #4304751392 IPC 10-99 Spot Paleo Monitoring  
(U-07-MQ-1437b,i,p,s)  
Kerr-McGee's NBU 921-35M4BS API #4304751393 IPC 10-99 Spot Paleo Monitoring  
(U-07-MQ-1437b,i,p,s)  
Kerr-McGee's NBU 921-35M4CS API #4304751394 IPC 10-99 Spot Paleo Monitoring  
(U-07-MQ-1437b,i,p,s)  
Kerr-McGee's NBU 921-35N4BS API #4304751395 IPC 10-100 Spot Paleo Monitoring  
(U-07-MQ-1437b,i,p,s; 1 non-significant site, 42Un1836, adjacent to pipeline)

# **ON-SITE PREDRILL EVALUATION**

## **Utah Division of Oil, Gas and Mining**

<b>Operator</b>	KERR-MCGEE OIL & GAS ONSHORE, L.P.			
<b>Well Name</b>	NBU 921-35F4BS			
<b>API Number</b>	43047513560000	<b>APD No</b>	3189	<b>Field/Unit</b>
<b>Location:</b> 1/4,1/4	SENW	Sec 35	Tw 9.0S	Rng 21.0E 2473 FNL 2358 FWL
<b>GPS Coord (UTM)</b>	624424	4427819		<b>Surface Owner</b>

**Participants**

See other comments:

**Regional/Local Setting & Topography**

The general area is within the Natural Buttes Unit in the lower portion of the Sand Wash Drainage of Uintah, County, approximately 37 air miles and 44.3 road miles south of Vernal, Utah. Access is by State of Utah Highways, Uintah County and existing oilfield development roads. Topography of the Sand Wash area is characterized by broad open flats dissected by numerous sub-drainages, which often become steep with ridges and draws with exposed sandstone layers. No perennial streams occur in the drainage. Individual draws or washes are ephemeral with spring runoff or flows from sometimes-intense summer rainstorms. No springs exist in the area. An occasional constructed pond occurs, furnishing water for antelope or livestock.

The NBU 921-35F4 pad will be enlarged to include four gas wells to be directionally drilled. They are the NBU 921-35F4BS, NBU 921-35F4CS, NBU 921-35K1BS and NBU 921-35K1CS. The pad extends a small existing pad containing the NBU 81V producing gas well. The pad will be enlarged on all sides. Significant off location draws exists to the north and the east. Small swales or draws leave the pad and pit area running to the north. Reserve pit Corners B and C are in a small amount of fill. A 15-foot outer bench and 2 feet of free board are provided. The reserve pit stockpile will be extended to the north to add additional support for the pit at Corner B. The well pad will be extended from 47 feet to 60 feet between the well heads and the pit to provide for the rig planned to drill the wells. A major tributary of Sand Wash is about one mile to the east of the site and the White River about 3 miles down drainage. The selected site appears to be suitable for enlarging a pad, drilling and operating the proposed wells and is the only site in the immediate area.

Both the surface and minerals are owned by SITLA.

**Surface Use Plan****Current Surface Use**

Grazing  
Wildlife Habitat  
Existing Well Pad

<b>New Road Miles</b>	<b>Well Pad</b>	<b>Src Const Material</b>	<b>Surface Formation</b>
0	Width 335 Length 455	Onsite	UNTA

**Ancillary Facilities** N**Waste Management Plan Adequate?****Environmental Parameters**

**Affected Floodplains and/or Wetlands** N

**Flora / Fauna**

Vegetation is a poor desert shrub type, which includes rabbit brush, Indian ricegrass, horsebrush, stipa commata, greasewood, broom snakeweed, shadscale and halogeton.

Antelope, sheep during the winter, rabbits, coyotes, and small mammals, birds and raptors.

### **Soil Type and Characteristics**

Surface soils are a rocky sandy loam.

**Erosion Issues** N

**Sedimentation Issues** N

**Site Stability Issues** N

**Drainage Diversion Required?** N

**Berm Required?** N

**Erosion Sedimentation Control Required?** N

**Paleo Survey Run?** Y    **Paleo Potential Observed?** N    **Cultural Survey Run?** Y    **Cultural Resources?**

### **Reserve Pit**

<b>Site-Specific Factors</b>		<b>Site Ranking</b>
<b>Distance to Groundwater (feet)</b>	100 to 200	5
<b>Distance to Surface Water (feet)</b>	>1000	0
<b>Dist. Nearest Municipal Well (ft)</b>	>5280	0
<b>Distance to Other Wells (feet)</b>		20
<b>Native Soil Type</b>	Mod permeability	10
<b>Fluid Type</b>	Fresh Water	5
<b>Drill Cuttings</b>	Normal Rock	0
<b>Annual Precipitation (inches)</b>		0
<b>Affected Populations</b>		
<b>Presence Nearby Utility Conduits</b>	Not Present	0
	<b>Final Score</b>	40    1 Sensitivity Level

### **Characteristics / Requirements**

The proposed reserve pit is 100' x 260' x 12' deep located in a cut on the northeast corner of the location. Kerr McGee plans a 30-mil liner with a double felt sub-liner. Reserve pit Corners B and C are in a small amount of fill. A 15-foot outer bench and 2 feet of free board are provided. The reserve pit stockpile will be extended to the north to add additional support for the pit at Corner B.

**Closed Loop Mud Required? N**    **Liner Required? Y**    **Liner Thickness 30**    **Pit Underlayment Required? Y**

### **Other Observations / Comments**

Floyd Bartlett (DOGM), Sheila Wopsock, Clay Einerson, Lovell Young, Grizz Oleen, Charles Chase, Colby Sutton, Doyle Holmes, Claudia Sass, (Kerr McGee), Mitch Batty, John Slaugh, (Timberline Engineering and Land Surveying), Jim Davis (SITLA) and Ben Williams, (UDWR).

'APIWellNo:43047513560000'

Floyd Bartlett  
**Evaluator**

11/30/2010  
**Date / Time**

# Application for Permit to Drill

## Statement of Basis

12/27/2010

### Utah Division of Oil, Gas and Mining

Page 1

APD No	API WellNo	Status	Well Type	Surf Owner	CBM
3189	43047513560000	LOCKED	GW	S	No
<b>Operator</b>	KERR-MCGEE OIL & GAS ONSHORE, L.P.		<b>Surface Owner-APD</b>		
<b>Well Name</b>	NBU 921-35F4BS		<b>Unit</b>	NATURAL BUTTES	
<b>Field</b>	NATURAL BUTTES		<b>Type of Work</b>	DRILL	
<b>Location</b>	SENW 35 9S 21E S 2473 FNL 2358 FWL GPS Coord (UTM)			626418E 4427815N	

**Geologic Statement of Basis**

Kerr McGee proposes to set 2,630' of surface casing at this location. The depth to the base of the moderately saline water at this location is estimated to be at a depth of 2,100'. A search of Division of Water Rights records shows one water well within a 10,000 foot radius of the center of Section 35. The well is listed as 2,640 feet deep and used for drilling water. The surface formation at this site is the Uinta Formation. The Uinta Formation is made up of interbedded shales and sandstones. The sandstones are mostly lenticular and discontinuous and should not be a significant source of useable ground water. The proposed casing and cement should adequately protect. Any usable ground water.

Brad Hill  
APD Evaluator

12/20/2010  
**Date / Time**

**Surface Statement of Basis**

The general area is within the Natural Buttes Unit in the lower portion of the Sand Wash Drainage of Uintah, County, approximately 37 air miles and 44.3 road miles south of Vernal, Utah. Access is by State of Utah Highways, Uintah County and existing oilfield development roads. Topography of the Sand Wash area is characterized by broad open flats dissected by numerous sub-drainages, which often become steep with ridges and draws with exposed sandstone layers. No perennial streams occur in the drainage. Individual draws or washes are ephemeral with spring runoff or flows from sometimes-intense summer rainstorms. No springs exist in the area. An occasional constructed pond occurs, furnishing water for antelope or livestock.

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Both the surface and minerals are owned by SITLA. Jim Davis represented SITLA at the pre-site investigation. Mr. Davis had no concerns pertaining to this location excepted as covered above. SITLA provided a seed mix to be used when reclaiming the site.

Ben Williams represented the Utah Division of Wildlife Resources. Mr. Williams stated the area is classified as crucial yearlong antelope habitat but recommended no restrictions for this species. No other wildlife will be significantly affected.

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## Application for Permit to Drill

### Statement of Basis

12/27/2010

**Utah Division of Oil, Gas and Mining**

Page 2

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Floyd Bartlett  
**Onsite Evaluator**

11/30/2010  
**Date / Time**

**Conditions of Approval / Application for Permit to Drill**

**Category**

**Condition**

Pits	A synthetic liner with a minimum thickness of 30 mils with a double felt subliner shall be properly installed and maintained in the reserve pit.
Surface	The reserve pit shall be fenced upon completion of drilling operations.

# WORKSHEET APPLICATION FOR PERMIT TO DRILL

**APD RECEIVED:** 11/23/2010

**API NO. ASSIGNED:** 43047513560000

**WELL NAME:** NBU 921-35F4BS

**OPERATOR:** KERR-MCGEE OIL & GAS ONSHORE, L.P. (N2995)

**PHONE NUMBER:** 720 929-6156

**CONTACT:** Danielle Piernot

**PROPOSED LOCATION:** SENW 35 090S 210E

**Permit Tech Review:**

**SURFACE:** 2473 FNL 2358 FWL

**Engineering Review:**

**BOTTOM:** 2210 FNL 2158 FWL

**Geology Review:**

**COUNTY:** UNTAH

**LATITUDE:** 39.99296

**LONGITUDE:** -109.51921

**UTM SURF EASTINGS:** 626418.00

**NORTHINGS:** 4427815.00

**FIELD NAME:** NATURAL BUTTES

**LEASE TYPE:** 3 - State

**LEASE NUMBER:** UO 01194 ST

**PROPOSED PRODUCING FORMATION(S):** WASATCH-MESA VERDE

**SURFACE OWNER:** 3 - State

**COALBED METHANE:** NO

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## RECEIVED AND/OR REVIEWED:

**PLAT**

**Bond:** STATE/FEE - 22013542

**Potash**

**Oil Shale 190-5**

**Oil Shale 190-3**

**Oil Shale 190-13**

**Water Permit:** Permit #43-8496

**RDCC Review:**

**Fee Surface Agreement**

**Intent to Commingle**

**Commingling Approved**

## LOCATION AND SITING:

**R649-2-3.**

**Unit:** NATURAL BUTTES

**R649-3-2. General**

**R649-3-3. Exception**

**Drilling Unit**

**Board Cause No:** Cause 173-14

**Effective Date:** 12/2/1999

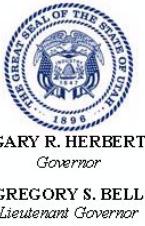
**Siting:** Suspends General Siting

**R649-3-11. Directional Drill**

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**Comments:** Presite Completed

**Stipulations:** 3 - Commingling - ddoucet  
5 - Statement of Basis - bhill  
15 - Directional - dmason  
17 - Oil Shale 190-5(b) - dmason  
25 - Surface Casing - hmacdonald



GARY R. HERBERT

*Governor*

GREGORY S. BELL

*Lieutenant Governor*

# State of Utah

## DEPARTMENT OF NATURAL RESOURCES

MICHAEL R. STYLER  
*Executive Director*

### Division of Oil, Gas and Mining

JOHN R. BAZA  
*Division Director*

## Permit To Drill

\*\*\*\*\*

**Well Name:** NBU 921-35F4BS

**API Well Number:** 43047513560000

**Lease Number:** UO 01194 ST

**Surface Owner:** STATE

**Approval Date:** 12/27/2010

**Issued to:**

KERR-MCGEE OIL & GAS ONSHORE, L.P., P.O. Box 173779, Denver, CO 80217

**Authority:**

Pursuant to Utah Code Ann. §40-6-1 et seq., and Utah Administrative Code R649-3-1 et seq., the Utah Division of Oil, Gas and Mining issues conditions of approval, and permit to drill the listed well. This permit is issued in accordance with the requirements of Cause 173-14. The expected producing formation or pool is the WASATCH-MESA VERDE Formation(s), completion into any other zones will require filing a Sundry Notice (Form 9). Completion and commingling of more than one pool will require approval in accordance with R649-3-22.

**Duration:**

This approval shall expire one year from the above date unless substantial and continuous operation is underway, or a request for extension is made prior to the expiration date

**Commingle:**

In accordance with Board Cause No. 173-14 commingling of the production from the Wasatch formation and the Mesaverde formation in this well is allowed.

**General:**

Compliance with the requirements of Utah Admin. R. 649-1 et seq., the Oil and Gas Conservation General Rules, and the applicable terms and provisions of the approved Application for permit to drill.

**Conditions of Approval:**

In accordance with Utah Admin. R.649-3-11, Directional Drilling, the operator shall submit a complete angular deviation and directional survey report to the Division within 30 days following completion of the well.

In accordance with the Order in Cause No. 190-5(b) dated October 28, 1982, the operator shall comply with the requirements of Rules R649-3-31 and R649-3-27 pertaining to Designated Oil Shale Areas. Additionally, the operators shall ensure that the surface and or production casing is properly cemented over the entire oil shale section as defined by Rule R649-3-31. The Operator shall report the actual depth the oil shale is encountered to the division.

Surface casing shall be cemented to the surface.

Compliance with the Conditions of Approval/Application for Permit to Drill outlined in the Statement of Basis (copy attached).

**Additional Approvals:**

The operator is required to obtain approval from the Division of Oil, Gas and mining before performing any of the following actions during the drilling of this well:

- Any changes to the approved drilling plan – contact Dustin Doucet
- Significant plug back of the well – contact Dustin Doucet
- Plug and abandonment of the well – contact Dustin Doucet

**Notification Requirements:**

The operator is required to notify the Division of Oil, Gas and Mining of the following actions during drilling of this well:

- Within 24 hours following the spudding of the well – contact Carol Daniels  
OR  
submit an electronic sundry notice (pre-registration required) via the Utah Oil & Gas website at <https://oilgas.ogm.utah.gov>
- 24 hours prior to testing blowout prevention equipment - contact Dan Jarvis
- 24 hours prior to cementing or testing casing – contact Dan Jarvis
- Within 24 hours of making any emergency changes to the approved drilling program – contact Dustin Doucet
- 24 hours prior to commencing operations to plug and abandon the well – contact Dan Jarvis

**Contact Information:**

The following are Division of Oil, Gas and Mining contacts and their telephone numbers (please leave a voicemail message if the person is not available to take the call):

- Carol Daniels 801-538-5284 - office
- Dustin Doucet 801-538-5281 - office  
801-733-0983 - after office hours
- Dan Jarvis 801-538-5338 - office  
801-231-8956 - after office hours

**Reporting Requirements:**

All reports, forms and submittals as required by the Utah Oil and Gas Conservation General Rules will be promptly filed with the Division of Oil, Gas and Mining, including but not limited to:

- Entity Action Form (Form 6) – due within 5 days of spudding the well
- Monthly Status Report (Form 9) – due by 5th day of the following calendar month
- Requests to Change Plans (Form 9) – due prior to implementation
- Written Notice of Emergency Changes (Form 9) – due within 5 days
- Notice of Operations Suspension or Resumption (Form 9) – due prior to implementation
- Report of Water Encountered (Form 7) – due within 30 days after completion
- Well Completion Report (Form 8) – due within 30 days after completion or plugging

**Approved By:**



For John Rogers  
Associate Director, Oil & Gas

<b>STATE OF UTAH</b> DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING		FORM 9	
<b>SUNDRY NOTICES AND REPORTS ON WELLS</b>			
<p>Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.</p>			
<b>1. TYPE OF WELL</b> Gas Well			
<b>2. NAME OF OPERATOR:</b> KERR-MCGEE OIL & GAS ONSHORE, L.P.			
<b>3. ADDRESS OF OPERATOR:</b> P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779		<b>PHONE NUMBER:</b> 720 929-6515 Ext	
<b>4. LOCATION OF WELL</b> <b>FOOTAGES AT SURFACE:</b> 2473 FNL 2358 FWL <b>QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:</b> Qtr/Qtr: SENW Section: 35 Township: 09.0S Range: 21.0E Meridian: S			
<b>5. LEASE DESIGNATION AND SERIAL NUMBER:</b> UO 01194 ST			
<b>6. IF INDIAN, ALLOTTEE OR TRIBE NAME:</b>  <b>7. UNIT or CA AGREEMENT NAME:</b> NATURAL BUTTES			
<b>8. WELL NAME and NUMBER:</b> NBU 921-35F4BS			
<b>9. API NUMBER:</b> 43047513560000			
<b>9. FIELD and POOL or WILDCAT:</b> NATURAL BUTTES			
<b>COUNTY:</b> UNTAH			
<b>STATE:</b> UTAH			
<b>11.</b> CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA			
<b>TYPE OF SUBMISSION</b>		<b>TYPE OF ACTION</b>	
<input checked="" type="checkbox"/> <b>NOTICE OF INTENT</b> Approximate date work will start: 3/31/2011		<input type="checkbox"/> ACIDIZE <input checked="" type="checkbox"/> ALTER CASING <input checked="" type="checkbox"/> CHANGE TO PREVIOUS PLANS <input type="checkbox"/> CHANGE TUBING <input type="checkbox"/> CHANGE WELL STATUS <input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS <input type="checkbox"/> DEEPEN <input type="checkbox"/> FRACTURE TREAT <input type="checkbox"/> OPERATOR CHANGE <input type="checkbox"/> PLUG AND ABANDON <input type="checkbox"/> PRODUCTION START OR RESUME <input type="checkbox"/> RECLAMATION OF WELL SITE <input type="checkbox"/> REPERFORATE CURRENT FORMATION <input type="checkbox"/> SIDETRACK TO REPAIR WELL <input type="checkbox"/> TUBING REPAIR <input type="checkbox"/> VENT OR FLARE <input type="checkbox"/> WATER SHUTOFF <input type="checkbox"/> SI TA STATUS EXTENSION <input type="checkbox"/> WILDCAT WELL DETERMINATION <input type="checkbox"/> OTHER	<input type="checkbox"/> CASING REPAIR <input type="checkbox"/> CHANGE WELL NAME <input type="checkbox"/> CONVERT WELL TYPE <input type="checkbox"/> NEW CONSTRUCTION <input type="checkbox"/> PLUG BACK <input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION <input type="checkbox"/> TEMPORARY ABANDON <input type="checkbox"/> WATER DISPOSAL <input type="checkbox"/> APD EXTENSION
<input type="checkbox"/> <b>SUBSEQUENT REPORT</b> Date of Work Completion:		OTHER: <input type="text"/>	
<input type="checkbox"/> <b>SPUD REPORT</b> Date of Spud:			
<input type="checkbox"/> <b>DRILLING REPORT</b> Report Date:			
<b>12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS.</b> Clearly show all pertinent details including dates, depths, volumes, etc. <p>Kerr-McGee Oil &amp; Gas Onshore, L.P. (Kerr-McGee) respectfully requests to change the surface casing size FROM: 9-5/8" TO: 8-5/8" and the surface hole size FROM 12-1/4" TO: 11". Please see the attached for additional details. Please contact the undersigned with any questions and/or comments. Thank you.</p>			<b>Approved by the</b> <b>Utah Division of</b> <b>Oil, Gas and Mining</b>
<b>Date:</b> <u>04/05/2011</u>		<b>By:</b> <u>Darrell Dunt</u>	
<b>NAME (PLEASE PRINT)</b> Danielle Piernot		<b>PHONE NUMBER</b> 720 929-6156	<b>TITLE</b> Regulatory Analyst
<b>SIGNATURE</b> N/A		<b>DATE</b> 3/30/2011	

RECEIVED Mar. 30, 2011



**KERR-MCGEE OIL & GAS ONSHORE LP**  
**DRILLING PROGRAM**

COMPANY NAME	KERR-MCGEE OIL & GAS ONSHORE LP	DATE	March 30, 2011		
WELL NAME	<b>NBU 921-35F4BS</b>	TD	10,640'	TVD	10,661' MD
FIELD	Natural Buttes	COUNTY	Uintah	STATE	Utah
SURFACE LOCATION	SE NW	2473 FNL	2358 FWL	Sec 35	T 9S R 21E
	Latitude: 39.993017 Longitude: -109.519208			NAD 27	
BTM HOLE LOCATION	SE NW	2210 FNL	2158 FWL	Sec 35	T 9S R 21E
	Latitude: 39.993741 Longitude: -109.51993			NAD 27	
OBJECTIVE ZONE(S)	Wasatch/Mesaverde				
ADDITIONAL INFO	Regulatory Agencies: UDOGM (Minerals), UDOGM (Surface), UDOGM Tri-County Health Dept.				

**GEOLOGICAL**

FORMATION	TOPS	DEPTH	HOLE SIZE	CASING SIZE	MUD WEIGHT
LOGS		40'		14"	
				8-5/8", 28#, IJ-55, LTC	
					Air mist
<b>All water flows encountered while drilling will be reported to the appropriate agencies.</b>					
Green River @	1,505'				
Top of Birds Nest @	1,804'				
Mahogany @	2,184'				
Preset f/ GL @					
2,630' MD					
Note: 11" surface hole will usually be drilled $\pm 400'$ below the lost circulation zone (aka bird's nest). Drilled depth may be $\pm 200'$ of the estimated set depth depending on the actual depth of the loss zone.					
Wasatch @	4,781'				
Mud logging program TBD					
Cased hole logging program from TD - surf csg					
Mverde @	7,534' TVD		7-7/8"	4-1/2" 11.6# HCP-110 or equivalent BTC csg	Water / Fresh Water Mud 8.3-12.0 ppg
MVU2 @	8,421' TVD				
MVU1 @	8,979' TVD				
Sego @	9,763' TVD				
Castlegate @	9,765' TVD				
MN5 @	10,187' TVD				
Max anticipated Mud required					
13.0 ppg					
TD @	10,640' TVD				
	10,661' MD				



**KERR-MCGEE OIL & GAS ONSHORE LP**  
DRILLING PROGRAM

**CASING PROGRAM**

	SIZE	INTERVAL	WT.	GR.	CPLG.	DESIGN FACTORS		
						BURST	COLLAPSE	TENSION
CONDUCTOR	14"	0-40'				3,390	1,880	348,000
SURFACE	8-5/8"	0 to 2,630	28.00	IJ-55	LTC	2.06	1.53	4.68
PRODUCTION	4-1/2"	0 to 10,661	11.60	HCP-110	BTC	10,690 1.19	8,650 1.20	367,000 3.70

**Surface Casing:**

(Burst Assumptions: TD = 13.0 ppg) 0.73 psi/ft = frac gradient @ surface shoe

Fracture at surface shoe with 0.1 psi/ft gas gradient above

(Collapse Assumption: Fully Evacuated Casing, Max MW) (Tension Assumptions: Air Weight of Casing\*Buoy.Fact. of water)

**Production casing:**

(Burst Assumptions: Pressure test with 8.4ppg @ 9000 psi) 0.66 psi/ft = bottomhole gradient

(Collapse Assumption: Fully Evacuated Casing, Max MW) (Tension Assumptions: Air Weight of Casing\*Buoy.Fact. of water)

**CEMENT PROGRAM**

	FT. OF FILL	DESCRIPTION	SACKS	EXCESS	WEIGHT	YIELD
SURFACE	LEAD 500'	Premium cmt + 2% CaCl + 0.25 pps flocele	180	60%	15.80	1.15
<b>Option 1</b>	TOP OUT CMT (6 jobs) 1,200'	20 gals sodium silicate + Premium cmt + 2% CaCl + 0.25 pps flocele	270	0%	15.80	1.15
SURFACE	LEAD 2,130'	<b>NOTE: If well will circulate water to surface, option 2 will be utilized</b>				
<b>Option 2</b>	TAIL 500'	65/35 Poz + 6% Gel + 10 pps gilsonite + 0.25 pps Flocele + 3% salt BWOW Premium cmt + 2% CaCl + 0.25 pps flocele	150	35%	15.80	1.15
	TOP OUT CMT as required	Premium cmt + 2% CaCl	as req.		15.80	1.15
PRODUCTION	LEAD 4,281'	Premium Lite II + 0.25 pps celloflake + 5 pps gilsonite + 10% gel + 0.5% extender	310	10%	11.00	3.38
	TAIL 6,380'	50/50 Poz/G + 10% salt + 2% gel + 0.1% R-3	1,230	10%	14.30	1.31

\*Substitute caliper hole volume plus 0% excess for LEAD if accurate caliper is obtained

\*Substitute caliper hole volume plus 10% excess for TAIL if accurate caliper is obtained

**FLOAT EQUIPMENT & CENTRALIZERS**

SURFACE	Guide shoe, 1 jt, insert float. Centralize first 3 joints with bow spring centralizers. Thread lock guide shoe
PRODUCTION	Float shoe, 1 jt, float collar. No centralizers will be used.

**ADDITIONAL INFORMATION**

Test casing head to 750 psi after installing. Test surface casing to 1,500 psi prior to drilling out.

BOPE: 11" 5M with one annular and 2 rams. The BOPE will be installed before the production hole is drilled and tested to 5,000 psi (annular to 2,500 psi) prior to drilling out the surface casing shoe. Record on chart recorder and tour sheet. Function test rams on each trip. Maintain safety valve and inside BOP on rig floor at all times. Most rigs have top drives; however, if used, the Kelly is to be equipped with upper and lower kelly valves.

Surveys will be taken at 1,000' minimum intervals.

Most rigs have PVT System for mud monitoring. If no PVT is available, visual monitoring will be utilized.

**DRILLING ENGINEER:**

Nick Spence / Emile Goodwin

**DATE:** \_\_\_\_\_**DRILLING SUPERINTENDENT:**

Kenny Gathings / Lovel Young

**DATE:** \_\_\_\_\_

FORM 9

**STATE OF UTAH**  
 DEPARTMENT OF NATURAL RESOURCES  
 DIVISION OF OIL, GAS, AND MINING

**SUNDRY NOTICES AND REPORTS ON WELLS**

Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.

**1. TYPE OF WELL**

Gas Well

**2. NAME OF OPERATOR:**

KERR-MCGEE OIL &amp; GAS ONSHORE, L.P.

**3. ADDRESS OF OPERATOR:**

P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779      PHONE NUMBER: 720 929-6515 Ext

**4. LOCATION OF WELL****FOOTAGES AT SURFACE:**

2473 FNL 2358 FWL

**QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:**

Qtr/Qtr: SENW Section: 35 Township: 09.0S Range: 21.0E Meridian: S

**5. LEASE DESIGNATION AND SERIAL NUMBER:**  
 UO 01194 ST

**6. IF INDIAN, ALLOTTEE OR TRIBE NAME:**
**7. UNIT or CA AGREEMENT NAME:**  
 NATURAL BUTTES

**8. WELL NAME and NUMBER:**  
 NBU 921-35F4BS

**9. API NUMBER:**  
 43047513560000

**9. FIELD and POOL or WILDCAT:**  
 NATURAL BUTTES

**COUNTY:**  
 UNTAH

**STATE:**  
 UTAH
**11.**

CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

<b>TYPE OF SUBMISSION</b>	<b>TYPE OF ACTION</b>		
<input type="checkbox"/> <b>NOTICE OF INTENT</b> Approximate date work will start:	<input type="checkbox"/> ACIDIZE	<input type="checkbox"/> ALTER CASING	<input type="checkbox"/> CASING REPAIR
<input type="checkbox"/> <b>SUBSEQUENT REPORT</b> Date of Work Completion:	<input type="checkbox"/> CHANGE TO PREVIOUS PLANS	<input type="checkbox"/> CHANGE TUBING	<input type="checkbox"/> CHANGE WELL NAME
<input checked="" type="checkbox"/> <b>SPUD REPORT</b> Date of Spud: 5/31/2011	<input type="checkbox"/> CHANGE WELL STATUS	<input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS	<input type="checkbox"/> CONVERT WELL TYPE
<input type="checkbox"/> <b>DRILLING REPORT</b> Report Date:	<input type="checkbox"/> DEEPEN	<input type="checkbox"/> FRACTURE TREAT	<input type="checkbox"/> NEW CONSTRUCTION
	<input type="checkbox"/> OPERATOR CHANGE	<input type="checkbox"/> PLUG AND ABANDON	<input type="checkbox"/> PLUG BACK
	<input type="checkbox"/> PRODUCTION START OR RESUME	<input type="checkbox"/> RECLAMATION OF WELL SITE	<input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION
	<input type="checkbox"/> REPERFORATE CURRENT FORMATION	<input type="checkbox"/> SIDETRACK TO REPAIR WELL	<input type="checkbox"/> TEMPORARY ABANDON
	<input type="checkbox"/> TUBING REPAIR	<input type="checkbox"/> VENT OR FLARE	<input type="checkbox"/> WATER DISPOSAL
	<input type="checkbox"/> WATER SHUTOFF	<input type="checkbox"/> SI TA STATUS EXTENSION	<input type="checkbox"/> APD EXTENSION
	<input type="checkbox"/> WILDCAT WELL DETERMINATION	<input type="checkbox"/> OTHER	OTHER: <input type="text"/>

**12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS.** Clearly show all pertinent details including dates, depths, volumes, etc.

MIRU PETE MARTIN BUCKET RIG. DRILLED 20" CONDUCTOR HOLE TO 40'.

RAN 14" 36.7# SCHEDULE 10 PIPE. CMT W/28 SX READY MIX. SPUD WELL ON  
05/31/2011 AT 930 HRS.

**Accepted by the**  
**Utah Division of**  
**Oil, Gas and Mining**  
**FOR RECORD ONLY**

<b>NAME (PLEASE PRINT)</b> Sheila Wopsock	<b>PHONE NUMBER</b> 435 781-7024	<b>TITLE</b> Regulatory Analyst
<b>SIGNATURE</b> N/A		<b>DATE</b> 6/3/2011

## BLM - Vernal Field Office - Notification Form

Operator KERR-McGEE OIL & GAS Rig Name/# BUCKET RIG  
Submitted By SHEILA WOPSOCI Phone Number 435.781.7024  
Well Name/Number NBU 921-35F4BS  
Qtr/Qtr SENW Section 35 Township 9S Range 21E  
Lease Serial Number UO-01194-ST  
API Number 4304751356

Spud Notice – Spud is the initial spudding of the well, not drilling out below a casing string.

Date/Time 05/31/2011 0800 HRS AM  PM

Casing – Please report time casing run starts, not cementing times.

- |                                     |                     |                           |
|-------------------------------------|---------------------|---------------------------|
| <input checked="" type="checkbox"/> | Surface Casing      | RECEIVED                  |
| <input type="checkbox"/>            | Intermediate Casing | MAY 26 2011               |
| <input type="checkbox"/>            | Production Casing   | DIV. OF OIL, GAS & MINING |
| <input type="checkbox"/>            | Liner               |                           |
| <input type="checkbox"/>            | Other               |                           |

Date/Time 06/11/2011 0800 HRS AM  PM

BOPE

- |                          |   |
|--------------------------|---|
| <input type="checkbox"/> | Initial BOPE test at surface casing point |
| <input type="checkbox"/> | BOPE test at intermediate casing point    |
| <input type="checkbox"/> | 30 day BOPE test                          |
| <input type="checkbox"/> | Other                                     |

Date/Time \_\_\_\_\_ AM  PM

Remarks ESTIMATED DATE AND TIME. PLEASE CONTACT  
KENNY GATHINGS AT 435.781.7048 FOR MORE

STATE OF UTAH  
DEPARTMENT OF NATURAL RESOURCES  
DIVISION OF OIL, GAS AND MINING

FORM 6

ENTITY ACTION FORM

Operator: KERR McGEE OIL & GAS ONSHORE LP  
Address: 1368 SOUTH 1200 EAST  
city VERNAL  
state UT zip 84078

Operator Account Number: N 2995  
Phone Number: (435) 781-7024

Well 1

API Number	Well Name		QQ	Sec	Twp	Rng	County			
4304751356	NBU 921-35F4BS		SENW	35	9S	21E	UINTAH			
Action Code	Current Entity Number	New Entity Number	Spud Date			Entity Assignment Effective Date				
B	99999	2900	5/31/2011			6/2/11				
<b>Comments:</b> MIRU PETE MARTIN BUCKET RIG. WSMV D SPUD WELL ON 05/31/2011 AT 0930 HRS.							—			
<i>BHL = SENW</i>							—			

Well 2

API Number	Well Name		QQ	Sec	Twp	Rng	County			
4304751357	NBU 921-35F4CS		SENW	35	9S	21E	UINTAH			
Action Code	Current Entity Number	New Entity Number	Spud Date			Entity Assignment Effective Date				
B	99999	2900	5/31/2011			6/2/11				
<b>Comments:</b> MIRU PETE MARTIN BUCKET RIG. WSMV D SPUD WELL ON 05/31/2011 AT 1030 HRS.							—			
<i>BHL = SENW</i>							—			

Well 3

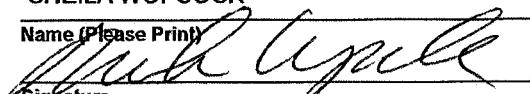
API Number	Well Name		QQ	Sec	Twp	Rng	County			
4304751358	NBU 921-35K1BS		SENW	35	9S	21E	UINTAH			
Action Code	Current Entity Number	New Entity Number	Spud Date			Entity Assignment Effective Date				
B	99999	2900	5/31/2011			6/2/11				
<b>Comments:</b> MIRU PETE MARTIN BUCKET RIG. WSMV D SPUD WELL ON 05/31/2011 AT 1245 HRS.							—			
<i>BHL = NESW</i>							—			

ACTION CODES:

- A - Establish new entity for new well (single well only)
- B - Add new well to existing entity (group or unit well)
- C - Re-assign well from one existing entity to another existing entity
- D - Re-assign well from one existing entity to a new entity
- E - Other (Explain in 'comments' section)

SHEILA WOPSOCK

Name (Please Print)



Signature

REGULATORY ANALYST

6/2/2011

Title

Date

RECEIVED

JUN 02 2011

<b>STATE OF UTAH</b> DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING		FORM 9	
<b>SUNDRY NOTICES AND REPORTS ON WELLS</b>		<b>5. LEASE DESIGNATION AND SERIAL NUMBER:</b> UO 01194 ST	
Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.		<b>6. IF INDIAN, ALLOTTEE OR TRIBE NAME:</b>	
<b>1. TYPE OF WELL</b> Gas Well		<b>7. UNIT or CA AGREEMENT NAME:</b> NATURAL BUTTES	
<b>2. NAME OF OPERATOR:</b> KERR-MCGEE OIL & GAS ONSHORE, L.P.		<b>8. WELL NAME and NUMBER:</b> NBU 921-35F4BS	
<b>3. ADDRESS OF OPERATOR:</b> P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779		<b>9. API NUMBER:</b> 43047513560000	
<b>4. LOCATION OF WELL</b> <b>FOOTAGES AT SURFACE:</b> 2473 FNL 2358 FWL <b>QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:</b> Qtr/Qtr: SENW Section: 35 Township: 09.0S Range: 21.0E Meridian: S		<b>9. FIELD and POOL or WILDCAT:</b> NATURAL BUTTES	
		<b>COUNTY:</b> UINTAH	
		<b>STATE:</b> UTAH	
11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA			
<b>TYPE OF SUBMISSION</b>	<b>TYPE OF ACTION</b>		
<input type="checkbox"/> <b>NOTICE OF INTENT</b> Approximate date work will start:	<input type="checkbox"/> ACIDIZE <input type="checkbox"/> CHANGE TO PREVIOUS PLANS <input type="checkbox"/> CHANGE WELL STATUS <input type="checkbox"/> DEEPEN <input type="checkbox"/> OPERATOR CHANGE <input type="checkbox"/> PRODUCTION START OR RESUME <input type="checkbox"/> REPERFORATE CURRENT FORMATION <input type="checkbox"/> TUBING REPAIR <input type="checkbox"/> WATER SHUTOFF <input type="checkbox"/> WILDCAT WELL DETERMINATION	<input type="checkbox"/> ALTER CASING <input type="checkbox"/> CHANGE TUBING <input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS <input type="checkbox"/> FRACTURE TREAT <input type="checkbox"/> PLUG AND ABANDON <input type="checkbox"/> RECLAMATION OF WELL SITE <input type="checkbox"/> SIDETRACK TO REPAIR WELL <input type="checkbox"/> VENT OR FLARE <input type="checkbox"/> SI TA STATUS EXTENSION <input type="checkbox"/> OTHER	<input type="checkbox"/> CASING REPAIR <input type="checkbox"/> CHANGE WELL NAME <input type="checkbox"/> CONVERT WELL TYPE <input type="checkbox"/> NEW CONSTRUCTION <input type="checkbox"/> PLUG BACK <input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION <input type="checkbox"/> TEMPORARY ABANDON <input type="checkbox"/> WATER DISPOSAL <input type="checkbox"/> APD EXTENSION
<input checked="" type="checkbox"/> <b>DRILLING REPORT</b> Report Date: 6/8/2011	OTHER: <input type="text"/>		
12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.			
MIRU AIR RIG ON JUNE 6, 2011. DRILLED SURFACE HOLE TO 2700'. RAN SURFACE CASING AND CEMENTED. WELL IS WAITING ON ROTARY RIG. DETAILS OF CEMENT JOB WILL BE INCLUDED WITH WELL COMPLETION Accepted by the Utah Division of Oil, Gas and Mining <b>FOR RECORD ONLY</b>			
<b>NAME (PLEASE PRINT)</b> Andy Lytle	<b>PHONE NUMBER</b> 720 929-6100	<b>TITLE</b> Regulatory Analyst	
<b>SIGNATURE</b> N/A	<b>DATE</b> 6/9/2011		

<b>STATE OF UTAH</b> DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING		FORM 9
<b>SUNDRY NOTICES AND REPORTS ON WELLS</b>		
<p>Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.</p>		<b>5. LEASE DESIGNATION AND SERIAL NUMBER:</b> UO 01194 ST
<b>1. TYPE OF WELL</b> Gas Well		<b>6. IF INDIAN, ALLOTTEE OR TRIBE NAME:</b>
<b>2. NAME OF OPERATOR:</b> KERR-MCGEE OIL & GAS ONSHORE, L.P.		<b>7. UNIT or CA AGREEMENT NAME:</b> NATURAL BUTTES
<b>3. ADDRESS OF OPERATOR:</b> P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779		<b>8. WELL NAME and NUMBER:</b> NBU 921-35F4BS
<b>4. LOCATION OF WELL</b> <b>FOOTAGES AT SURFACE:</b> 2473 FNL 2358 FWL <b>QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:</b> Qtr/Qtr: SENW Section: 35 Township: 09.0S Range: 21.0E Meridian: S		<b>9. API NUMBER:</b> 43047513560000
<b>11.</b> CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA		<b>9. FIELD and POOL or WILDCAT:</b> NATURAL BUTTES
<b>TYPE OF SUBMISSION</b>		<b>TYPE OF ACTION</b>
<input checked="" type="checkbox"/> <b>NOTICE OF INTENT</b> Approximate date work will start: 6/8/2011		<input type="checkbox"/> ACIDIZE <input type="checkbox"/> ALTER CASING <input type="checkbox"/> CASING REPAIR <input type="checkbox"/> CHANGE TO PREVIOUS PLANS <input type="checkbox"/> CHANGE TUBING <input type="checkbox"/> CHANGE WELL NAME <input type="checkbox"/> CHANGE WELL STATUS <input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS <input type="checkbox"/> CONVERT WELL TYPE <input type="checkbox"/> DEEPEN <input type="checkbox"/> FRACTURE TREAT <input type="checkbox"/> NEW CONSTRUCTION <input type="checkbox"/> OPERATOR CHANGE <input type="checkbox"/> PLUG AND ABANDON <input type="checkbox"/> PLUG BACK <input type="checkbox"/> PRODUCTION START OR RESUME <input type="checkbox"/> RECLAMATION OF WELL SITE <input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION <input type="checkbox"/> REPERFORATE CURRENT FORMATION <input type="checkbox"/> SIDETRACK TO REPAIR WELL <input type="checkbox"/> TEMPORARY ABANDON <input type="checkbox"/> TUBING REPAIR <input type="checkbox"/> VENT OR FLARE <input type="checkbox"/> WATER DISPOSAL <input type="checkbox"/> WATER SHUTOFF <input type="checkbox"/> SI TA STATUS EXTENSION <input type="checkbox"/> APD EXTENSION <input type="checkbox"/> WILDCAT WELL DETERMINATION <input checked="" type="checkbox"/> OTHER
<input type="checkbox"/> <b>SUBSEQUENT REPORT</b> Date of Work Completion:		OTHER: <input type="text" value="Pit Utilization"/>
<input type="checkbox"/> <b>SPUD REPORT</b> Date of Spud:		
<input type="checkbox"/> <b>DRILLING REPORT</b> Report Date:		
<b>12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS.</b> Clearly show all pertinent details including dates, depths, volumes, etc. <p>Kerr-McGee Oil &amp; Gas Onshore, LP is requesting to refurb the existing pit on this multi-well pad for the completion operations. The refurb pit will be relined per the requirements in the COA of the APD. Upon completion of the wells on this pad, Kerr-McGee is also requesting to utilize this pit as an ACTS staging pit to be utilized for other completion operations in the area. We plan to keep this pit open for 1 year. During this time the surrounding well location completion fluids will be recycled in this pit and utilized for other frac jobs in the surrounding sections. The following wells are on the NBU 921-35F4 Pad: NBU 921-35F4BS, NBU 921-35F4CS, NBU 921-35K1BS &amp; NBU 921-35K1C</p> <p><b>Date:</b> <u>06/22/2011</u> <b>By:</b> <u>Daniel J. Johnson</u></p>		
<b>NAME (PLEASE PRINT)</b> Gina Becker		<b>PHONE NUMBER</b> 720 929-6086
<b>TITLE</b> Regulatory Analyst II		
<b>SIGNATURE</b> N/A		<b>DATE</b> 6/8/2011

Please Review Attached Conditions of Approval

RECEIVED Jun. 08, 2011



## The Utah Division of Oil, Gas, and Mining

- State of Utah
- Department of Natural Resources

Electronic Permitting System - Sundry Notices

### Sundry Conditions of Approval Well Number 43047513560000

**A synthetic liner with a minimum thickness of 30 mils with a felt subliner shall be properly installed and maintained in the pit.**

FORM 9

**STATE OF UTAH**  
 DEPARTMENT OF NATURAL RESOURCES  
 DIVISION OF OIL, GAS, AND MINING

**SUNDRY NOTICES AND REPORTS ON WELLS**

Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.

**1. TYPE OF WELL**

Gas Well

**2. NAME OF OPERATOR:**

KERR-MCGEE OIL &amp; GAS ONSHORE, L.P.

**3. ADDRESS OF OPERATOR:**

P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779      PHONE NUMBER: 720 929-6515 Ext

**4. LOCATION OF WELL****FOOTAGES AT SURFACE:**

2473 FNL 2358 FWL

**QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:**

Qtr/Qtr: SENW Section: 35 Township: 09.0S Range: 21.0E Meridian: S

**5. LEASE DESIGNATION AND SERIAL NUMBER:**  
UO 01194 ST**6. IF INDIAN, ALLOTTEE OR TRIBE NAME:****7. UNIT or CA AGREEMENT NAME:**  
NATURAL BUTTES**8. WELL NAME and NUMBER:**  
NBU 921-35F4BS**9. API NUMBER:**  
43047513560000**9. FIELD and POOL or WILDCAT:**  
NATURAL BUTTES**COUNTY:**  
UINTAH**STATE:**  
UTAH**11.**

CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

<b>TYPE OF SUBMISSION</b>	<b>TYPE OF ACTION</b>		
<input type="checkbox"/> <b>NOTICE OF INTENT</b> Approximate date work will start:	<input type="checkbox"/> ACIDIZE	<input type="checkbox"/> ALTER CASING	<input type="checkbox"/> CASING REPAIR
<input type="checkbox"/> <b>SUBSEQUENT REPORT</b> Date of Work Completion:	<input type="checkbox"/> CHANGE TO PREVIOUS PLANS	<input type="checkbox"/> CHANGE TUBING	<input type="checkbox"/> CHANGE WELL NAME
<input type="checkbox"/> <b>SPUD REPORT</b> Date of Spud:	<input type="checkbox"/> CHANGE WELL STATUS	<input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS	<input type="checkbox"/> CONVERT WELL TYPE
<input checked="" type="checkbox"/> <b>DRILLING REPORT</b> Report Date: 7/30/2011	<input type="checkbox"/> DEEPEN	<input type="checkbox"/> FRACTURE TREAT	<input type="checkbox"/> NEW CONSTRUCTION
	<input type="checkbox"/> OPERATOR CHANGE	<input type="checkbox"/> PLUG AND ABANDON	<input type="checkbox"/> PLUG BACK
	<input type="checkbox"/> PRODUCTION START OR RESUME	<input type="checkbox"/> RECLAMATION OF WELL SITE	<input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION
	<input type="checkbox"/> REPERFORATE CURRENT FORMATION	<input type="checkbox"/> SIDETRACK TO REPAIR WELL	<input type="checkbox"/> TEMPORARY ABANDON
	<input type="checkbox"/> TUBING REPAIR	<input type="checkbox"/> VENT OR FLARE	<input type="checkbox"/> WATER DISPOSAL
	<input type="checkbox"/> WATER SHUTOFF	<input type="checkbox"/> SI TA STATUS EXTENSION	<input type="checkbox"/> APD EXTENSION
	<input type="checkbox"/> WILDCAT WELL DETERMINATION	<input type="checkbox"/> OTHER	OTHER: <input type="text"/>

**12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS.** Clearly show all pertinent details including dates, depths, volumes, etc.

MIRU ROTARY RIG. FINISHED DRILLING FROM 2700' TO 10,878' ON JULY 27,

2011. RAN 4-1/2" 11.6# P-110 PRODUCTION CASING. CEMENTED

PRODUCTION CASING. RELEASED H&amp;P RIG 298 ON JULY 30, 2011 @ 12:00

Accepted by the  
Utah Division of  
Oil, Gas and Mining**FOR RECORD ONLY**

<b>NAME (PLEASE PRINT)</b> Andy Lytle	<b>PHONE NUMBER</b> 720 929-6100	<b>TITLE</b> Regulatory Analyst
<b>SIGNATURE</b> N/A		<b>DATE</b> 8/1/2011

**RECEIVED** Aug. 01, 2011

<b>STATE OF UTAH</b> DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING		FORM 9
<b>SUNDRY NOTICES AND REPORTS ON WELLS</b>		
Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.		
<b>1. TYPE OF WELL</b> Gas Well		<b>5. LEASE DESIGNATION AND SERIAL NUMBER:</b> UO 01194 ST
<b>2. NAME OF OPERATOR:</b> KERR-MCGEE OIL & GAS ONSHORE, L.P.		<b>6. IF INDIAN, ALLOTTEE OR TRIBE NAME:</b>  <b>7. UNIT or CA AGREEMENT NAME:</b> NATURAL BUTTES
<b>3. ADDRESS OF OPERATOR:</b> P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779		<b>8. WELL NAME and NUMBER:</b> NBU 921-35F4BS
<b>4. LOCATION OF WELL</b> <b>FOOTAGES AT SURFACE:</b> 2473 FNL 2358 FWL <b>QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:</b> Qtr/Qtr: SENW Section: 35 Township: 09.0S Range: 21.0E Meridian: S		<b>9. API NUMBER:</b> 43047513560000
<b>11.</b> CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA		<b>9. FIELD and POOL or WILDCAT:</b> NATURAL BUTTES
<b>TYPE OF SUBMISSION</b>		<b>TYPE OF ACTION</b>
<input type="checkbox"/> <b>NOTICE OF INTENT</b> Approximate date work will start:  <input type="checkbox"/> <b>SUBSEQUENT REPORT</b> Date of Work Completion:  <input type="checkbox"/> <b>SPUD REPORT</b> Date of Spud:  <input checked="" type="checkbox"/> <b>DRILLING REPORT</b> Report Date: 9/29/2011		<input type="checkbox"/> ACIDIZE <input type="checkbox"/> ALTER CASING <input type="checkbox"/> CASING REPAIR <input type="checkbox"/> CHANGE TO PREVIOUS PLANS <input type="checkbox"/> CHANGE TUBING <input type="checkbox"/> CHANGE WELL NAME <input type="checkbox"/> CHANGE WELL STATUS <input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS <input type="checkbox"/> CONVERT WELL TYPE <input type="checkbox"/> DEEPEN <input type="checkbox"/> FRACTURE TREAT <input type="checkbox"/> NEW CONSTRUCTION <input type="checkbox"/> OPERATOR CHANGE <input type="checkbox"/> PLUG AND ABANDON <input type="checkbox"/> PLUG BACK <input checked="" type="checkbox"/> PRODUCTION START OR RESUME <input type="checkbox"/> RECLAMATION OF WELL SITE <input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION <input type="checkbox"/> REPERFORATE CURRENT FORMATION <input type="checkbox"/> SIDETRACK TO REPAIR WELL <input type="checkbox"/> TEMPORARY ABANDON <input type="checkbox"/> TUBING REPAIR <input type="checkbox"/> VENT OR FLARE <input type="checkbox"/> WATER DISPOSAL <input type="checkbox"/> WATER SHUTOFF <input type="checkbox"/> SI TA STATUS EXTENSION <input type="checkbox"/> APD EXTENSION <input type="checkbox"/> WILDCAT WELL DETERMINATION <input type="checkbox"/> OTHER
		OTHER: <input type="text"/>
<b>12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS.</b> Clearly show all pertinent details including dates, depths, volumes, etc. THE SUBJECT WELL WAS PLACED ON PRODUCTION ON 09/29/2011 AT 3:00 PM. THE CHRONOLOGICAL WELL HISTORY WILL BE SUBMITTED WITH THE WELL COMPLETION REPORT.		
<b>Accepted by the</b> <b>Utah Division of</b> <b>Oil, Gas and Mining</b> <b>FOR RECORD ONLY</b>		
<b>NAME (PLEASE PRINT)</b> Sheila Wopsock		<b>PHONE NUMBER</b> 435 781-7024
<b>TITLE</b> Regulatory Analyst		
<b>SIGNATURE</b> N/A		<b>DATE</b> 9/30/2011

**STATE OF UTAH**  
 DEPARTMENT OF NATURAL RESOURCES  
 DIVISION OF OIL, GAS AND MINING

AMENDED REPORT   
 (highlight changes)

FORM 8

5. LEASE DESIGNATION AND SERIAL NUMBER:  
**UO 01194 ST**

6. IF INDIAN, ALLOTTEE OR TRIBE NAME

7. UNIT or CA AGREEMENT NAME  
**UTU63047A**

8. WELL NAME and NUMBER:  
**NBU 921-35F4BS**

9. API NUMBER:  
**4304751356**

10 FIELD AND POOL, OR WILDCAT  
**NATURAL BUTTES**

11. QTR/QTR, SECTION, TOWNSHIP, RANGE,  
 MERIDIAN:  
**SENW 35 9S 21E S**

12. COUNTY                    13. STATE  
**UINTAH                    UTAH**

**WELL COMPLETION OR RECOMPLETION REPORT AND LOG**

1a. TYPE OF WELL:      OIL WELL       GAS WELL       DRY       OTHER \_\_\_\_\_

b. TYPE OF WORK:  
 NEW WELL       HORIZ. LATS.       DEEP-EN       RE-ENTRY       DIFF. RESVR.       OTHER \_\_\_\_\_

2. NAME OF OPERATOR:  
**KERR MCGEE OIL & GAS ONSHORE, L.P.**

3. ADDRESS OF OPERATOR:  
**P.O.BOX 173779      CITY DENVER      STATE CO      ZIP 80217**      PHONE NUMBER:  
**(720) 929-6100**

4. LOCATION OF WELL (FOOTAGES)

AT SURFACE: **SENW 2473 FNL 2358 FWL S35,T9S,R21E**

AT TOP PRODUCING INTERVAL REPORTED BELOW: **SENW 2194 FNL 2144 FWL S35,T9S,R21E**

AT TOTAL DEPTH: **SENW 2228 FNL 2187 FWL S35,T9S,R21E**

14. DATE SPUDDED: **5/31/2011**      15. DATE T.D. REACHED: **7/27/2011**      16. DATE COMPLETED: **9/29/2011**      ABANDONED       READY TO PRODUCE

17. ELEVATIONS (DF, RKB, RT, GL):  
**5120 GL**

18. TOTAL DEPTH: MD **10,878**      19. PLUG BACK T.D.: MD **10,845**      20. IF MULTIPLE COMPLETIONS, HOW MANY? \*  
 TVD **10,847**      TVD **10,814**

21. DEPTH BRIDGE MD  
 PLUG SET: TVD

22. TYPE ELECTRIC AND OTHER MECHANICAL LOGS RUN (Submit copy of each)

**CBL-BHV-SD/DSN/ACTR**

23.

WAS WELL CORED?

NO

YES

(Submit analysis)

WAS DST RUN?

NO

YES

(Submit report)

DIRECTIONAL SURVEY?

NO

YES

(Submit copy)

**24. CASING AND LINER RECORD (Report all strings set in well)**

HOLE SIZE	SIZE/GRADE	WEIGHT (#/ft.)	TOP (MD)	BOTTOM (MD)	STAGE CEMENTER DEPTH	CEMENT TYPE & NO. OF SACKS	SLURRY VOLUME (BBL)	CEMENT TOP **	AMOUNT PULLED
20"	14" STL	36.7#	0	40		28			
11"	8 5/8" IJ-55	28#	0	2,680		725		0	
7 7/8"	4 1/2" P-110	11.6#	0	10,869		1,833		3820	

**25. TUBING RECORD**

SIZE	DEPTH SET (MD)	PACKER SET (MD)	SIZE	DEPTH SET (MD)	PACKER SET (MD)	SIZE	DEPTH SET (MD)	PACKER SET (MD)
2 3/8"	9,462							

**26. PRODUCING INTERVALS**

FORMATION NAME	TOP (MD)	BOTTOM (MD)	TOP (TVD)	BOTTOM (TVD)	INTERVAL (Top/Bot - MD)	SIZE	NO. HOLES	PERFORATION STATUS
(A) MESAVERDE	7,734	10,492			7,734	10,492	0.36	192
(B) <del>WASMND</del>								Open <input type="checkbox"/> Squeezed <input type="checkbox"/>
(C)								Open <input type="checkbox"/> Squeezed <input type="checkbox"/>
(D)								Open <input type="checkbox"/> Squeezed <input type="checkbox"/>

**28. ACID, FRACTURE, TREATMENT, CEMENT SQUEEZE, ETC.**

DEPTH INTERVAL	AMOUNT AND TYPE OF MATERIAL
7734 - 10,492	PUMP 8,112 BBLS SLICK H2O & 117,482 LBS 30/50 OTTAWA SAND
	8 STAGES

**RECEIVED**

**NOV 08 2011**

**DIV. OF OIL, GAS & MINING**

**29. ENCLOSED ATTACHMENTS:**

ELECTRICAL/MECHANICAL LOGS  
 SUNDRY NOTICE FOR PLUGGING AND CEMENT VERIFICATION

GEOLOGIC REPORT       DST REPORT       DIRECTIONAL SURVEY  
 CORE ANALYSIS       OTHER: \_\_\_\_\_

**30. WELL STATUS:**

**PROD**

## 31. INITIAL PRODUCTION

## INTERVAL A (As shown in Item #26)

DATE FIRST PRODUCED: 9/29/2011	TEST DATE: 10/1/2011	HOURS TESTED: 24		TEST PRODUCTION RATES: →	OIL - BBL: 0	GAS - MCF: 2,220	WATER - BBL: 628	PROD. METHOD: FLOWING		
CHOKE SIZE: 20/64	TBG. PRESS. 1,650	CSG. PRESS. 2,450	API GRAVITY	BTU - GAS	GAS/OIL RATIO	24 HR PRODUCTION RATES: →	OIL - BBL: 0	GAS - MCF: 2,220	WATER - BBL: 628	INTERVAL STATUS: PROD

## INTERVAL B (As shown in Item #26)

DATE FIRST PRODUCED:	TEST DATE:	HOURS TESTED:		TEST PRODUCTION RATES: →	OIL - BBL:	GAS - MCF:	WATER - BBL:	PROD. METHOD:		
CHOKE SIZE:	TBG. PRESS.	CSG. PRESS.	API GRAVITY	BTU - GAS	GAS/OIL RATIO	24 HR PRODUCTION RATES: →	OIL - BBL:	GAS - MCF:	WATER - BBL:	INTERVAL STATUS:

## INTERVAL C (As shown in Item #26)

DATE FIRST PRODUCED:	TEST DATE:	HOURS TESTED:		TEST PRODUCTION RATES: →	OIL - BBL:	GAS - MCF:	WATER - BBL:	PROD. METHOD:		
CHOKE SIZE:	TBG. PRESS.	CSG. PRESS.	API GRAVITY	BTU - GAS	GAS/OIL RATIO	24 HR PRODUCTION RATES: →	OIL - BBL:	GAS - MCF:	WATER - BBL:	INTERVAL STATUS:

## INTERVAL D (As shown in Item #26)

DATE FIRST PRODUCED:	TEST DATE:	HOURS TESTED:		TEST PRODUCTION RATES: →	OIL - BBL:	GAS - MCF:	WATER - BBL:	PROD. METHOD:		
CHOKE SIZE:	TBG. PRESS.	CSG. PRESS.	API GRAVITY	BTU - GAS	GAS/OIL RATIO	24 HR PRODUCTION RATES: →	OIL - BBL:	GAS - MCF:	WATER - BBL:	INTERVAL STATUS:

## 32. DISPOSITION OF GAS (Sold, Used for Fuel, Vented, Etc.)

## 33. SUMMARY OF POROUS ZONES (Include Aquifers):

Show all important zones of porosity and contents thereof: Cored intervals and all drill-stem tests, including depth interval tested, cushion used, time tool open, flowing and shut-in pressures and recoveries.

## 34. FORMATION (Log) MARKERS:

Formation	Top (MD)	Bottom (MD)	Descriptions, Contents, etc.	Name	Top (Measured Depth)
				GREEN RIVER BIRD'S NEST MAHOGANY WASATCH MESAVERDE	1,596 1,916 2,253 5,186 8,014

## 35. ADDITIONAL REMARKS (Include plugging procedure)

The first 228' of the surface hole was drilled with a 12 1/4" bit. The remainder of surface hole was drilled with an 11" bit. Attached is the chronological well history, perforation report & final survey.

## 36. I hereby certify that the foregoing and attached information is complete and correct as determined from all available records.

NAME (PLEASE PRINT) JAIME SCHARNOWSKATITLE REGULATORY ANALYSTSIGNATURE Jaime ScharnowskaDATE 11/1/2011

This report must be submitted within 30 days of

- completing or plugging a new well
- drilling horizontal laterals from an existing well bore
- recompleting to a different producing formation
- reentering a previously plugged and abandoned well
- significantly deepening an existing well bore below the previous bottom-hole depth
- drilling hydrocarbon exploratory holes, such as core samples and stratigraphic tests

\* ITEM 20: Show the number of completions if production is measured separately from two or more formations.

\*\* ITEM 24: Cement Top – Show how reported top(s) of cement were determined (circulated (CIR), calculated (CAL), cement bond log (CBL), temperature survey (TS)).

Send to: Utah Division of Oil, Gas and Mining  
1594 West North Temple, Suite 1210  
Box 145801  
Salt Lake City, Utah 84114-5801

Phone: 801-538-5340

Fax: 801-359-3940

**US ROCKIES REGION**

**Operation Summary Report**

Well: NBU 921-35F4BS RED			Spud Conductor: 5/31/2011			Spud Date: 6/7/2011		
Project: UTAH-UINTAH			Site: NBU 921-35F4 PAD			Rig Name No: H&P 298/298, CAPSTAR 310/310		
Event: DRILLING			Start Date: 5/22/2011			End Date: 7/30/2011		
Active Datum: RKB @5,146.00usft (above Mean Sea Level)				UWI: SE/NW/0/9/S/21/E/35/0/0/26/PM/N/2473//W/0/2358/0/0				
Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
6/6/2011	16:30 - 0:00	7.50	DRLSUR	01	A	P		MOVE RIG FROM NBU 921-20D PAD 7 MILE MOVE 7 TRUCKS FROM HOWCROFT FIELD SERVICES
6/7/2011	0:00 - 1:00	1.00	DRLSUR	14	A	P		WELD ON CONDUCTOR AND RIG UP FLOW LINE
	1:00 - 2:30	1.50	DRLSUR	06	A	P		PICK UP NEW MOTOR AND 12.25" BIT
	2:30 - 4:00	1.50	DRLSUR	02	C	P		SPUD WELL WITH 12.25" BIT DRILL F/ 40' - 228' WOB 8-20 ROT 45-55 DHR 96 GPM 600
	4:00 - 6:30	2.50	DRLSUR	06	A	P		TOOH INSTALL DIRECTIONAL TOOLS AND ORIENT MUD MOTOR TO MWD TOOL PICK UP 11" BIT AND TIH
	6:30 - 14:00	7.50	DRLSUR	02	C	P		DRILL 11" HOLE F/ 228' - 1242' AVE ROP 135 FT HR WOB 20-22 ROT 45-55 DHR 96 GPM 600 LAST SURVEY 9.47 DEG 323.36 AZI
	14:00 - 14:30	0.50	DRLSUR	07	A	P		DAILY RIG SERVICE
	14:30 - 0:00	9.50	DRLSUR	02	C	P		DRILL 11" HOLE F/ 1242' - 2259' AVE ROP 107 FT HR WOB 20-22 ROT 45-55 DHR 96 GPM 600 LAST SURVEY 9.54 DEG 318.19 AZI
6/8/2011	-		RDMO					CONDUCTOR CASING: Cond. Depth set:40 Cement sx used:28
								SPUD DATE/TIME:6/7/2011 2:30
								SURFACE HOLE: Surface From depth:40 Surface To depth:2,700 Total SURFACE hours:24.50 Surface Casing size:8/5/2008 # of casing joints ran:60 JT'S Casing set MD:2,661.0 # sx of cement:200/225/300 Cement blend (ppg:)11/15.8/15/8 Cement yield (ft3/sk):3.82/1.15/1.15 # of bbls to surface:0 Describe cement issues:NO RETURNS Describe hole issues:NONE
	0:00 - 6:00	6.00	DRLSUR	02	C	P		DRILL 11" HOLE F/ 2259' - 2700' T.D. AVE ROP 73 FT HR WOB 20-22 ROT 45-55 DHR 96 GPM 600 LAST SURVEY 8.54 DEG 319.4 AZI
	6:00 - 8:00	2.00	DRLSUR	05	A	P		CIRC. & COND. HOLE FOR 8-5/8" SURFACE CSG
	8:00 - 10:30	2.50	DRLSUR	06	A	P		LDDS & DIR TOOLS
	10:30 - 14:30	4.00	CSG	12	C	P		PJSM /// RUN 60 JT'S, 8-5/8", 28#, J-55, LT&C CSG /// FLOAT SHOE SET @ 2662' /// FIBER BAFFLE @ 2618' CIRC 8-5/8" SURFACE CSG @ 2662'
	14:30 - 15:00	0.50	CSG	05	A	P		

## US ROCKIES REGION

## Operation Summary Report

Well: NBU 921-35F4BS RED			Spud Conductor: 5/31/2011			Spud Date: 6/7/2011		
Project: UTAH-UINTAH			Site: NBU 921-35F4 PAD			Rig Name No: H&P 298/298, CAPSTAR 310/310		
Event: DRILLING			Start Date: 5/22/2011			End Date: 7/30/2011		
Active Datum: RKB @5,146.00usft (above Mean Sea Level)			UWI: SE/NW/0/9/S/21/E/35/0/0/26/PM/N/2473/W/0/2358/0/0					
Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
	15:00 - 16:30	1.50	CSG	12	E	P		PJSM WITH SUPERIOR CMT CREW // TEST LINES TO 2500 PSI // PUMP 25 BBL SPACER // LEAD = 200x CLASS G CMT @ 3.82 YIELD & 11.0 WT // TAIL = 225sx CLASS G @ 1.15 YIELD & 15.8 WT // DROP PLUG & DISPLACE W/ 155 BBL'S WATER // PLUG DN @16:38 06/08/2011 // BUMP PLUG @ 750 PSI // FINAL LIFT= 495 PSI /// NO RETURNS ON CMT JOB // NO CMT TO SURFACE
	16:30 - 17:30	1.00	CSG	14	A	P		CUT OFF CONDUCTOR & HANG 8-5/8" SURFACE CSG
	17:30 - 18:00	0.50	CSG	12	E	P		RUN 200' OF 1" PIPE DN BACK SIDE & TOP OUT W/ 300sx CLASS G CMT @ 15.8 WT & 1.15 YIELD // CMT TO SURFACE
	18:00 - 19:00	1.00	RDMO	01		P		RIG DN // RELEASE RIG @ 19:00 6/8/2011 TO THE NBU 921-35F4CS
7/19/2011	0:00 - 6:00	6.00	RDMO	01	E	P		RDRT / PREP RIG FOR TRUCKS / MOVING TO NBU 921-35F4BS
	6:00 - 19:00	13.00	RDMO	01	A	P		SAFETY MEETING WITH RIG CREWS, TRUCKING CREW & CRANE CREW / 5 BED TRUCKS 6 HAUL TRUCKS, TWO FORKLIFTS & ONE CRANE ON LOCATION @ 06:00 / MOVE CAMPS TO NEW LOC & RIG UP/ LOAD OUT & MOVE BACK YARD/ SET IN BACK YARD & R/U PUMPS MCC HOUSE, WATER TANK ,VFD, GENs & DIESELTANK / SHAKERS / PLUG IN ELECTRIC CORDS / LOWER DERRICK SPLIT & LOAD OUT / LOWER SUB / LOAD OUT HAUL TO NEW LOC / LOAD SKID RAILS / NFTN @ 1900 HRS/ DUE TO HEAVY RAINS & FLOODED ROADS / RIG 90% MOVED 25% RIGGED UP/ H&P 9 MEN 13 HRS
7/20/2011	19:00 - 0:00	5.00	RDMO	21	C	P		WAIT ON DAYLIGHT
	0:00 - 6:00	6.00	MIRU	21	C	P		WAIT ON DAYLIGHT
	6:00 - 0:00	18.00	MIRU	01	B	P		MIRU RT / JONES TRUCKING 10 MEN 5 TRUCKS 2 FORK LIFTS / J&C CRANE 5 MEN / H&P CREWS 15 MEN DRK IN AIR @ 19:30 CRANE OFF LOCATION @ 18:00 JONES TRUCKING OFF LOCATION @ 20:00 HRS / CONTINUE TO RU RT
7/21/2011	0:00 - 2:00	2.00	MIRU	01	B	P		RU / RT
	2:00 - 11:00	9.00	PRPSPD	14	A	P		NU BOP'S & EQUIPMENT
	11:00 - 11:30	0.50	PRPSPD	23		P		SAFETY INSPECTION & WALK AROUND
	11:30 - 12:00	0.50	PRPSPD	01	B	P		INSTALL DRILLING BAILS
	12:00 - 12:30	0.50	PRPSPD	15	A	P		TEST CSG & WELL HEAD TO 1500 PSI
	12:30 - 16:30	4.00	PRPSPD	15	A	P		TEST BOP'S & EQUIPMENT AS PER PROGRAM 250 LOW / 5000 PSI HIGH ANNULAR 250/2500
	16:30 - 17:00	0.50	PRPSPD	14	B	P		INSATLL WEAR BUSHING
	17:00 - 17:30	0.50	PRPSPD	23		P		PRE SPUD MTG & PRESSURE TEST SURFACE LINES
	17:30 - 0:00	6.50	PRPSPD	06	A	P		PJSM RU LAYDOWN MACHINE & PU BHA # 1 TIH TO 2,560 TAG CEMENT
	0:00 - 1:00	1.00	PRPSPD	06	A	P		RD LD MACHINE & CHECK LEVEL ON DRK / INSTALL ROT. RUBBER
7/22/2011	1:00 - 1:30	0.50	PRPSPD	07	A	P		SERVICE RIG @ 2,560'
	1:30 - 3:30	2.00	DRLPRO	02	F	P		DRILL OUT CEMENT & SHOE TRACK F/ 2,560' TO 2,678' / CLEAN OUT RAT HOLE TO 2,717'

## US ROCKIES REGION

## Operation Summary Report

Well: NBU 921-35F4BS RED			Spud Conductor: 5/31/2011			Spud Date: 6/7/2011		
Project: UTAH-UINTAH			Site: NBU 921-35F4 PAD			Rig Name No: H&P 298/298, CAPSTAR 310/310		
Event: DRILLING			Start Date: 5/22/2011			End Date: 7/30/2011		
Active Datum: RKB @5,146.00usft (above Mean Sea Level)			UWI: SE/NW/0/9/S/21/E/35/0/0/26/PM/N/2473//W/0/2358/0/0					
Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
	3:30 - 18:00	14.50	DRLPRO	02	D	P		DRILL/ SLIDE/ SURVEY F/2,717' TO 4,845' = 2,128' @ 146.75 FPH // WOB 15K-20K / TOP DRIVE RPM 40-60 / PUMP 120 SPM = 540 GPM / PUMP PRESSURE ON/OFF BOTTOM 2230/1800 PSI / MUD MOTOR RPM 114 / PU/SO/ROT WT 145/100/125 TORQUE ON/OFF BOTTOM 11K/6K / SLIDE 89' IN 95 MIN 4% OF FOOTAGE DRILLED 11% OF HRS DRILLED H2O + POLYMER W/ WEIGHTED SWEEPS +/- 1.5 PPG
	18:00 - 18:30	0.50	DRLPRO	07	A	P		SERVICE RIG @ 4,845'
	18:30 - 0:00	5.50	DRLPRO	02	D	P		DRILL/ SLIDE/ SURVEY F/4,845' TO 5,635' = 790' @ 143.66 FPH // WOB 15K-20K / TOP DRIVE RPM 40-60 / PUMP 120 SPM = 540 GPM / PUMP PRESSURE ON/OFF BOTTOM 2230/1800 PSI / MUD MOTOR RPM 114 / PU/SO/ROT WT 155/120/130 TORQUE ON/OFF BOTTOM 11K/6K / SLIDE 0' IN 0 MIN 0% OF FOOTAGE DRILLED 0% OF HRS DRILLED H2O + POLYMER W/ WEIGHTED SWEEPS +/- 1.5 PPG
7/23/2011	0:00 - 6:00	6.00	DRLPRO	02	D	P		DRILL/ SLIDE/ SURVEY F/5,635' TO 6,326' = 691' @ 115.16 FPH // WOB 15K-20K / TOP DRIVE RPM 40-60 / PUMP 120 SPM = 540 GPM / PUMP PRESSURE ON/OFF BOTTOM 2230/1800 PSI / MUD MOTOR RPM 114 / PU/SO/ROT WT 175/125/150 TORQUE ON/OFF BOTTOM 11K/6K / SLIDE 18' IN 15 MIN 3% OF FOOTAGE DRILLED 5% OF HRS DRILLED H2O + POLYMER W/ WEIGHTED SWEEPS +/- 1.5 PPG
	6:00 - 17:30	11.50	DRLPRO	02	D	P		DRILL/ SLIDE/ SURVEY F/6,326' TO 7,240' = 914' @ 79.5 FPH // WOB 15K-20K / TOP DRIVE RPM 40-60 / PUMP 100 SPM = 450GPM / PUMP PRESSURE ON/OFF BOTTOM 1750/1600 PSI / MUD MOTOR RPM 95 / PU/SO/ROT WT 200/150/165 TORQUE ON/OFF BOTTOM 11K/6K / SLIDE 18' IN 40 MIN 2% OF FOOTAGE DRILLED 5% OF HRS DRILLED MUD UP @ 6,600' / MUD LOSS 150 BBL MUD / MIX LCM SWEEPS
	17:30 - 18:00	0.50	DRLPRO	07	A	P		SERVICE RIG @ 7,240'
	18:00 - 0:00	6.00	DRLPRO	02	D	P		DRILL/ SLIDE/ SURVEY F/7,240' TO 7,725' = 485' @ 81 FPH // WOB 15K-20K / TOP DRIVE RPM 40-60 / PUMP 100 SPM = 450 GPM / PUMP PRESSURE ON/OFF BOTTOM 1900/1650 PSI / MUD MOTOR RPM 95 / PU/SO/ROT WT 200/150/180 TORQUE ON/OFF BOTTOM 10K/8K / SLIDE 0' IN 0 MIN 0% OF FOOTAGE DRILLED 0% OF HRS DRILLED / MUD WT 9.4 PPG VIS 34/ NO MUD LOSE
7/24/2011	0:00 - 6:00	6.00	DRLPRO	02	D	P		DRILL/ SLIDE/ SURVEY F/7,725' TO 7,998' = 273' @ 45.5 FPH // WOB 15K-20K / TOP DRIVE RPM 40-60 / PUMP 100 SPM = 450 GPM / PUMP PRESSURE ON/OFF BOTTOM 1900/1650 PSI / MUD MOTOR RPM 95 / PU/SO/ROT WT 200/150/180 TORQUE ON/OFF BOTTOM 10K/8K / SLIDE 40' IN 65 MIN 14% OF FOOTAGE DRILLED 21% OF HRS DRILLED / MUD WT 9.4 PPG VIS 34/ NO MUD LOSE

## US ROCKIES REGION

## Operation Summary Report

Well: NBU 921-35F4BS RED			Spud Conductor: 5/31/2011			Spud Date: 6/7/2011		
Project: UTAH-UINTAH			Site: NBU 921-35F4 PAD			Rig Name No: H&P 298/298, CAPSTAR 310/310		
Event: DRILLING			Start Date: 5/22/2011			End Date: 7/30/2011		
Active Datum: RKB @5,146.00usft (above Mean Sea Level)				UWI: SE/NW/0/9/S/21/E/35/0/0/26/PM/N/2473/W/0/2358/0/0				
Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
	6:00 - 15:30	9.50	DRLPRO	02	D	P		DRILL/ SLIDE/ SURVEY F/7,998' TO 8,470' = 472' @ 49.68 FPH // WOB 18K-23K / TOP DRIVE RPM 40-60 / PUMP 105 SPM = 470 GPM / PUMP PRESSURE ON/OFF BOTTOM 2350/2125 PSI / MUD MOTOR RPM 99 / PU/SO/ROT WT 210/160/182 TORQUE ON/OFF BOTTOM 9K/7K / SLIDE 55' IN 90 MIN 11% OF FOOTAGE DRILLED 16% OF HRS DRILLED / MUD WT 10.4 PPG VIS 36 / NO MUD LOSE SERVICE RIG @ 8,470'
	15:30 - 16:00	0.50	DRLPRO	07	A	P		DRILL/ SLIDE/ SURVEY F/8,470' TO 8,900' = 430' @ 53.75 FPH // WOB 18K-23K / TOP DRIVE RPM 40-60 / PUMP 105 SPM = 470 GPM / PUMP PRESSURE ON/OFF BOTTOM 2350/2125 PSI / MUD MOTOR RPM 99 / PU/SO/ROT WT 215/165/185 TORQUE ON/OFF BOTTOM 9K/8K / SLIDE 0' IN 0 MIN 0% OF FOOTAGE DRILLED 0% OF HRS DRILLED / MUD WT 11.2 PPG VIS 37 / 130 BBL MUD LOSE / 14% LCM / MAX GAS 6220 UNITS / NO FLARE
	16:00 - 0:00	8.00	DRLPRO	02	D	P		DRILL/ SLIDE/ SURVEY F/8,900' TO 9,068' = 168' @ 28 FPH // WOB 18K-23K / TOP DRIVE RPM 40-60 / PUMP 105 SPM = 470 GPM / PUMP PRESSURE ON/OFF BOTTOM 2350/2125 PSI / MUD MOTOR RPM 99 / PU/SO/ROT WT 220/167/187 TORQUE ON/OFF BOTTOM 9K/8K / SLIDE 0' IN 0 MIN 0% OF FOOTAGE DRILLED 0% OF HRS DRILLED / MUD WT 11.2 PPG VIS 37 / 130 BBL MUD LOSE / 14% LCM / MAX GAS 3915 UNITS / NO FLARE
7/25/2011	0:00 - 6:00	6.00	DRLPRO	02	D	P		DRILL/ SLIDE/ SURVEY F/9,068' TO 9,414' = 346' @ 36.42 FPH // WOB 18K-24K / TOP DRIVE RPM 40-50 / PUMP 105 SPM = 470 GPM / PUMP PRESSURE ON/OFF BOTTOM 2350/2125 PSI / MUD MOTOR RPM 99 / PU/SO/ROT WT 225/175/190 TORQUE ON/OFF BOTTOM 9K/8K / SLIDE 0' IN 0 MIN 0% OF FOOTAGE DRILLED 0% OF HRS DRILLED / MUD WT 11.7 PPG VIS 40 / 25 BBL MUD LOSE / 16% LCM / MAX GAS 3965 UNITS / NO FLARE
	6:00 - 15:30	9.50	DRLPRO	02	D	P		DRILL/ SLIDE/ SURVEY F/9,414' TO 9,735' = 321' @ 40.12 FPH // WOB 18K-24K / TOP DRIVE RPM 40-50 / PUMP 105 SPM = 470 GPM / PUMP PRESSURE ON/OFF BOTTOM 2850/2375 PSI / MUD MOTOR RPM 99 / PU/SO/ROT WT 235/175/190 TORQUE ON/OFF BOTTOM 9K/8K / SLIDE 0' IN 0 MIN 0% OF FOOTAGE DRILLED 0% OF HRS DRILLED / MUD WT 11.7 PPG VIS 40 / 30 BBL MUD LOSE / 16% LCM / MAX GAS 4580 UNITS / NO FLARE
	15:30 - 16:00	0.50	DRLPRO	07	A	P		SERVICE RIG @ 9,414'
	16:00 - 0:00	8.00	DRLPRO	02	D	P		DRILL/ SLIDE/ SURVEY F/9,414' TO 9,735' = 321' @ 40.12 FPH // WOB 18K-24K / TOP DRIVE RPM 40-50 / PUMP 105 SPM = 470 GPM / PUMP PRESSURE ON/OFF BOTTOM 2850/2375 PSI / MUD MOTOR RPM 99 / PU/SO/ROT WT 235/175/190 TORQUE ON/OFF BOTTOM 9K/8K / SLIDE 0' IN 0 MIN 0% OF FOOTAGE DRILLED 0% OF HRS DRILLED / MUD WT 11.7 PPG VIS 40 / 30 BBL MUD LOSE / 16% LCM / MAX GAS 4580 UNITS / NO FLARE

## US ROCKIES REGION

## Operation Summary Report

Well: NBU 921-35F4BS RED			Spud Conductor: 5/31/2011			Spud Date: 6/7/2011		
Project: UTAH-UINTAH			Site: NBU 921-35F4 PAD			Rig Name No: H&P 298/298, CAPSTAR 310/310		
Event: DRILLING			Start Date: 5/22/2011			End Date: 7/30/2011		
Active Datum: RKB @5,146.00usft (above Mean Sea Level)			UWI: SE/NW/0/9/S/21/E/35/0/0/26/PM/N/2473/W/0/2358/0/0					
Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
7/26/2011	0:00 - 12:30	12.50	DRLPRO	02	D	P		DRILL/ SLIDE/ SURVEY F/ 9,735' TO 10,043' = 308' @ 24.64 FPH // WOB 18K-24K / TOP DRIVE RPM 40-50 / PUMP 105/ 90 SPM = 470/405 GPM / PUMP PRESSURE ON/OFF BOTTOM 2850/2375 2320/2050 PSI / MUD MOTOR RPM 99 / PU/SO/ROT WT 240/175/205 TORQUE ON/OFF BOTTOM 9K/8K / SLIDE 0' IN 0 MIN 0% OF FOOTAGE DRILLED 0% OF HRS DRILLED / MUD WT 11.7 PPG VIS 40 / 40 BBL MUD LOSE / 18% LCM / MAX GAS 4580 UNITS / NO FLARE
	12:30 - 14:00	1.50	DRLPRO	05	C	P		CIRC & COND MUD @ 10,043'
	14:00 - 19:30	5.50	DRLPRO	06	A	P		TOOH W/ BIT # 1 F/ 10,043' TO BIT W/ NO PROBLEMS / LD BIT & MUD MTR / FUNCTION BOP'S PU & MU BIT & BHA # 2 ORIENTATE, SCRIBE, TEST & TIH TO SHOE @ 2,678' / CHECK LEVEL ON DRK- OK / INSTALL ROT HEAD / BRK CIRC
	19:30 - 21:30	2.00	DRLPRO	06	A	P		SERVICE RIG @ 2,678'
	21:30 - 22:00	0.50	DRLPRO	07	A	P		CONT TO TIH HOLE TO 7,700' / HELD BOP DRILL
	22:00 - 0:00	2.00	DRLPRO	06	A	P		TIH F/ 7,700 TO 9,900' WASH TO BTM @ 10,043' W/ NO PROBLEMS / NO FILL
7/27/2011	0:00 - 2:00	2.00	DRLPRO	06	A	P		DRILL/ SLIDE/ SURVEY F/ 10,043' TO 10,455' = 412' @ 35.82 FPH // WOB 18K-24K / TOP DRIVE RPM 40-50 / PUMP 105/ 90 SPM = 470/405 GPM / PUMP PRESSURE ON/OFF BOTTOM 2850/2600 2320/2050 PSI / MUD MOTOR RPM 99 / PU/SO/ROT WT 240/190/205 TORQUE ON/OFF BOTTOM 9K/8K / SLIDE 0' IN 0 MIN 0% OF FOOTAGE DRILLED 0% OF HRS DRILLED / MUD WT 12.3 PPG VIS 44 / NO MUD LOSE / 20% LCM / MAX GAS 5825 UNITS / NO FLARE
	2:00 - 13:30	11.50	DRLPRO	02	D	P		SERVICE RIG @ 10,455'
	13:30 - 14:00	0.50	DRLPRO	07	A	P		DRILL/ SLIDE/ SURVEY F/ 10,455' TO 10,878' TD=
	14:00 - 23:00	9.00	DRLPRO	02	D	P		423' @ 47 FPH // WOB 18K-24K / TOP DRIVE RPM 40-50 / PUMP 105 SPM = 473 GPM / PUMP PRESSURE ON/OFF BOTTOM 2900/2600 PSI / MUD MOTOR RPM 78 / PU/SO/ROT WT 250/190/210 TORQUE ON/OFF BOTTOM 9K/8K / SLIDE 0' IN 0 MIN 0% OF FOOTAGE DRILLED 0% OF HRS DRILLED / MUD WT 12.3 PPG VIS 44 / NO MUD LOSE / 20% LCM / MAX GAS 3170 UNITS / 15-20' FLARE
	23:00 - 0:00	1.00	DRLPRO	05	C	P		CIRC & COND MUD @ 10,878' TD
7/28/2011	0:00 - 0:30	0.50	DRLPRO	05	C	P		CIRC & COND MUD @ 10,878'
	0:30 - 4:30	4.00	DRLPRO	06	E	P		TOOH TO SHOE @ 2,678' W/ NO PROBLEMS
	4:30 - 9:30	5.00	DRLPRO	06	E	P		TIH F/ 2,678' TO 10,878' WASH & WORK TIGHT HOLE @ 7,240' / NO FILL
	9:30 - 13:00	3.50	DRLPRO	05	A	P		CIRC & COND MUD @ 10,878'
	13:00 - 19:30	6.50	DRLPRO	06	A	P		TOOH F/ 10,878' TO BIT TIGHT HOLE @ 5,760' WORK & REAM SAME
	19:30 - 20:00	0.50	DRLPRO	06	A	P		LD MTR & BIT REMOVE MWD TOOL
	20:00 - 0:00	4.00	DRLPRO	11	D	P		PJSM RU HALLIBURTON LOGGING EQUIPMENT RIH W/ TRIPPLE COMBO TO 5,810' ATTEMPT TO WORK THRU TIGHT HOLE W NO SUCCESS / TOOH
7/29/2011	0:00 - 1:00	1.00	DRLPRO	11	D	P		RD LOGGING EQUIPMENT

## US ROCKIES REGION

## Operation Summary Report

Well: NBU 921-35F4BS RED			Spud Conductor: 5/31/2011			Spud Date: 6/7/2011		
Project: UTAH-UINTAH			Site: NBU 921-35F4 PAD			Rig Name No: H&P 298/298, CAPSTAR 310/310		
Event: DRILLING			Start Date: 5/22/2011			End Date: 7/30/2011		
Active Datum: RKB @5,146.00usft (above Mean Sea Level)				UWI: SE/NW/0/9/S/21/E/35/0/0/26/PM/N/2473/W/0/2358/0/0				
Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
7/30/2011	1:00 - 7:30	6.50	DRLPRO	06	F	S		TIH TO 10,878' WASH LAST 3 STDS TO BTM NO FILL (REAM TIGHT HOLE @ 5,810') CIRC & COND MUD @ 10,878'
	7:30 - 9:00	1.50	DRLPRO	05	A	P		TOOH LD BIT / FUNCTION BOP'S / BOP DRILL
	9:00 - 14:30	5.50	DRLPRO	06	A	P		SERVICE RIG
	14:30 - 15:00	0.50	DRLPRO	07	A	P		PJSM / RU HALLIBURTON LOGGING EQUIPMENT RIH W/ TRIPPLE COMBO (2ND RUN) LOGGERS DEPTH 10,882' DRILLERS DEPTH 10,878' LOG UP F/ 10,873' TO 200' / RD LOGGING EQUIPMENT
	15:00 - 20:00	5.00	DRLPRO	11	D	P		PULL WEAR BUSHING
	20:00 - 20:30	0.50	DRLPRO	14	B	P		CHANGE OUT BAILS & ELEVATORS,PJSM,RU FRANKS CSG EQUIPMENT
	20:30 - 22:30	2.00	DRLPRO	12	A	P		RUN 4 1/2" CSG TO 700' W NO PROBLEMS
	22:30 - 0:00	1.50	DRLPRO	12	C	P		CONT TO RUN 4 1/2" 11.60# P-110 BTC PRODUCTION CSG F/ 700' TO 10,869' W/ NO PROBLEMS / TOTAL JTS RAN 259' SHOE @ 10,869', FLOAT COLLAR @ 10,845' Mverde Marker @ 7,644' Wasatch Marker @ 4,881'
	0:00 - 7:00	7.00	DRLPRO	12	C	P		CIRC BTM'S UP @ 10,869' & RD FRANKS CSG EQUIPMENT
	7:00 - 8:00	1.00	DRLPRO	05	A	P		PJSM / TEST LINES TO 4500 PSI / PUMP 5 BBL WATER FOLLOWED W/ 20 SKS 9 BBL 11.7 PPG CMT+ 540 SX LEAD CEMENT @ 12.7 ppg (PREM LITE II )125.79 BBLS FRESH WATER / (9.75 gal/sx, 1.89 yield) +1293SX TAIL @ 14.3 ppg (CLS G 50/50 POZ 182.04 BBLS H2O / (5.90 gal/sx, 1.31 yield) / DROP PLUG & DISPLACE W/ 168 BBLS H2O + ADDITIVES / PLUG DOWN @ 10:19 LIFT PRESSURE @ 3100 PSI BUMP PRESSURE @3600 W/ 20 BBLCMT BACK TO PIT / FLOATS HELD W/ 2 BBLS H2O RETURNED TO INVENTORY / TOP OF TAIL CEMENT CALCULATED @ 4350' FULL RETURNS THROUGH OUT JOB, RD CMT EQUIP
	8:00 - 11:00	3.00	DRLPRO	12	E	P		ND BOP'S
	11:00 - 11:30	0.50	DRLPRO	14	A	P		SET SLIPS W/ 100 K CUT OFF SAME RELEASE RIG @ 12:00 7/30/11
	11:30 - 12:00	0.50	DRLPRO	14	B	P		

## US ROCKIES REGION

## Operation Summary Report

Well: NBU 921-35F4BS RED		Spud Conductor: 5/31/2011			Spud Date: 6/7/2011						
Project: UTAH-UINTAH		Site: NBU 921-35F4 PAD				Rig Name No: H&P 298/298, CAPSTAR 310/310					
Event: DRILLING		Start Date: 5/22/2011			End Date: 7/30/2011						
Active Datum: RKB @5,146.00usft (above Mean Sea Level)				UWI: SE/NW/0/9/S/21/E/35/0/0/26/PM/N/2473/W/0/2358/0/0							
Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation			
12:00 - 12:00	0.00	DRLPRO						<p>CONDUCTOR CASING: Cond. Depth set:40 Cement sx used:28</p> <p>SPUD DATE/TIME:6/7/2011 2:30</p> <p>SURFACE HOLE: Surface From depth:40 Surface To depth:2,700 Total SURFACE hours:24.50 Surface Casing size:8/5/2008 # of casing joints ran:60 JT'S Casing set MD:2,661.0 # sx of cement:200/225/300 Cement blend (ppg:)11/15.8/15/8 Cement yield (ft<sup>3</sup>/sk):3.82/1.15/1.15 # of bbls to surface:0 Describe cement issues:NO RETURNS Describe hole issues:NONE</p> <p>PRODUCTION: Rig Move/Skid start date/time:7/19/2011 0:00 Rig Move/Skid finish date/time:7/21/2011 2:00 Total MOVE hours:50.0 Prod Rig Spud date/time:7/22/2011 3:30 Rig Release date/time:7/30/2011 12:00 Total SPUD to RR hours:200.5 Planned depth MD10,870 Planned depth TVD10,841 Actual MD:10,878 Actual TVD:10,847 Open Wells \$: AFE \$: Open wells \$/ft:</p> <p>PRODUCTION HOLE: Prod. From depth:2,717 Prod. To depth:10,878 Total PROD hours: 123.5 Log Depth:10,873 Production Casing size:4 1/2 # of casing joints ran:259 Casing set MD:10,869.0 # sx of cement:1,833 Cement blend (ppg:)12.7/14.3 Cement yield (ft<sup>3</sup>/sk):1.89/1.31 Est. TOC (Lead &amp; Tail) or 2 Stage :4350 Describe cement issues:20 BBL CMT BACK TO PITS / FULL RETURNS THROUGH OUT JOB FLOATS HELD 2 BBL WATER BACK TO INVENTORY Describe hole issues:GOOD</p> <p>DIRECTIONAL INFO:DIRECTIONAL KOP:178 Max angle:11.64 Departure:320.00</p>			

## US ROCKIES REGION

**Operation Summary Report**

Well: NBU 921-35F4BS RED	Spud Conductor: 5/31/2011	Spud Date: 6/7/2011						
Project: UTAH-UINTAH	Site: NBU 921-35F4 PAD	Rig Name No: H&P 298/298, CAPSTAR 310/310						
Event: DRILLING	Start Date: 5/22/2011	End Date: 7/30/2011						
Active Datum: RKB @5,146.00usft (above Mean Sea Level)		UWI: SE/NW/0/9/S/21/E/35/0/0/26/PM/N/2473/W/0/2358/0/0						
Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
								Max dogleg MD:1.66 / 2,186

## 1 General

### 1.1 Customer Information

Company	US ROCKIES REGION
Representative	
Address	

### 1.2 Well/Wellbore Information

Well	NBU 921-35F4BS RED	Wellbore No.	OH
Well Name	NBU 921-35F4BS	Wellbore Name	NBU 921-35F4BS
Report No.	1	Report Date	9/23/2011
Project	UTAH-UINTAH	Site	NBU 921-35F4 PAD
Rig Name/No.		Event	COMPLETION
Start Date	9/23/2011	End Date	9/29/2011
Spud Date	6/7/2011	Active Datum	RKB @5,146.00usft (above Mean Sea Level)
UWI	SE/NW/0/9/S/21/E/35/0/0/26/PM/N/2473/W/0/2358/0/0		

### 1.3 General

Contractor	CASED HOLE SOLUTIONS	Job Method	PERFORATE	Supervisor	KEN WARREN
Perforated Assembly	PRODUCTION CASING	Conveyed Method	WIRELINE		

### 1.4 Initial Conditions

### 1.5 Summary

Fluid Type		Fluid Density		Gross Interval	7,734.0 (usft)-10,492.0 (us)	Start Date/Time	9/26/2011 12:00AM
Surface Press		Estimate Res Press		No. of Intervals	30	End Date/Time	9/26/2011 12:00AM
TVD Fluid Top		Fluid Head		Total Shots	0	Net Perforation Interval	51.00 (usft)
Hydrostatic Press		Press Difference		Avg Shot Density	0.00 (shot/ft)	Final Surface Pressure	
Balance Cond	NEUTRAL					Final Press Date	

## 2 Intervals

### 2.1 Perforated Interval

Date	Formation/ Reservoir	CCL@ (usft)	CCL-T S (usft)	MD Top (usft)	MD Base (usft)	Shot Density (shot/ft)	Misfires/ Add. Shot	Diamete r (in)	Carr Type /Carr Manuf	Carr Size (in)	Phasing (°)	Charge Desc /Charge Manufacturer	Charge Weight (gram)	Reason	Misrun
9/26/2011 12:00AM	MESAVERDE/	7,734.0	7,737.0			0.360 EXP/				3.375	90.00		23.00 PRODUCTIO N		

## 2.1 Perforated Interval (Continued)

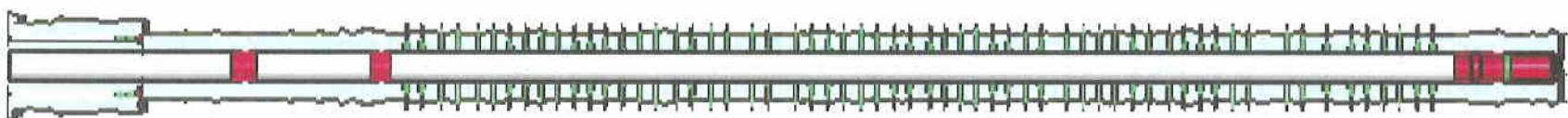
Date	Formation/ Reservoir	CCL@( usft)	CCL-T S (usft)	MD Top (usft)	MD Base (usft)	Shot Density (shot/ft)	Misfires/ Add. Shot	Diameter (in)	Car Type /Carr Manuf	Carr Size (in)	Phasing (°)	Charge Desc /Charge Manufacturer	Charge Weight (gram)	Reason	Misrun
9/26/2011	MESAVERDE/			7,840.0	7,843.0			0.360	EXP/	3.375	90.00		23.00	PRODUCTIO N	
12:00AM															
9/26/2011	MESAVERDE/			7,974.0	7,975.0			0.360	EXP/	3.375	90.00		23.00	PRODUCTIO N	
12:00AM															
9/26/2011	MESAVERDE/			8,010.0	8,011.0			0.360	EXP/	3.375	90.00		23.00	PRODUCTIO N	
12:00AM															
9/26/2011	MESAVERDE/			8,030.0	8,031.0			0.360	EXP/	3.375	90.00		23.00	PRODUCTIO N	
12:00AM															
9/26/2011	MESAVERDE/			8,061.0	8,063.0			0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
12:00AM															
9/26/2011	MESAVERDE/			8,071.0	8,073.0			0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
12:00AM															
9/26/2011	MESAVERDE/			8,132.0	8,134.0			0.360	EXP/	3.375	90.00		23.00	PRODUCTIO N	
12:00AM															
9/26/2011	MESAVERDE/			8,246.0	8,248.0			0.360	EXP/	3.375	90.00		23.00	PRODUCTIO N	
12:00AM															
9/26/2011	MESAVERDE/			8,332.0	8,334.0			0.360	EXP/	3.375	90.00		23.00	PRODUCTIO N	
12:00AM															
9/26/2011	MESAVERDE/			8,572.0	8,578.0			0.360	EXP/	3.375	90.00		23.00	PRODUCTIO N	
12:00AM															
9/26/2011	MESAVERDE/			8,870.0	8,871.0			0.360	EXP/	3.375	90.00		23.00	PRODUCTIO N	
12:00AM															
9/26/2011	MESAVERDE/			8,912.0	8,914.0			0.360	EXP/	3.375	90.00		23.00	PRODUCTIO N	
12:00AM															
9/26/2011	MESAVERDE/			8,972.0	8,973.0			0.360	EXP/	3.375	90.00		23.00	PRODUCTIO N	
12:00AM															
9/26/2011	MESAVERDE/			9,024.0	9,026.0			0.360	EXP/	3.375	90.00		23.00	PRODUCTIO N	
12:00AM															
9/26/2011	MESAVERDE/			9,144.0	9,146.0			0.360	EXP/	3.375	90.00		23.00	PRODUCTIO N	
12:00AM															
9/26/2011	MESAVERDE/			9,158.0	9,159.0			0.360	EXP/	3.375	90.00		23.00	PRODUCTIO N	
12:00AM															
9/26/2011	MESAVERDE/			9,190.0	9,192.0			0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
12:00AM															
9/26/2011	MESAVERDE/			9,230.0	9,232.0			0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
12:00AM															
9/26/2011	MESAVERDE/			9,492.0	9,493.0			0.360	EXP/	3.375	90.00		23.00	PRODUCTIO N	
12:00AM															
9/26/2011	MESAVERDE/			9,510.0	9,511.0			0.360	EXP/	3.375	90.00		23.00	PRODUCTIO N	
12:00AM															
9/26/2011	MESAVERDE/			9,596.0	9,597.0			0.360	EXP/	3.375	90.00		23.00	PRODUCTIO N	
12:00AM															

## 2.1 Perforated Interval (Continued)

Date	Formation/ Reservoir	CCL@ (usft)	CCL-T S (usft)	MD Top (usft)	MD Base (usft)	Shot Density (shot/ft)	Misfires/ Add. Shot	Diameter (in)	Carr Type /Carr Manuf	Carr Size (in)	Phasing (°)	Charge Desc /Charge Manufacturer	Charge Weight (gram)	Reason	Misrun
9/26/2011	MESAVERDE/ 12:00AM			9,696.0	9,697.0			0.360	EXP/	3.375	90.00		23.00	PRODUCTIO N	
9/26/2011	MESAVERDE/ 12:00AM			9,704.0	9,705.0			0.360	EXP/	3.375	90.00		23.00	PRODUCTIO N	
9/26/2011	MESAVERDE/ 12:00AM			9,744.0	9,745.0			0.360	EXP/	3.375	90.00		23.00	PRODUCTIO N	
9/26/2011	MESAVERDE/ 12:00AM			10,316.0	10,317.0			0.360	EXP/	3.375	90.00		23.00	PRODUCTIO N	
9/26/2011	MESAVERDE/ 12:00AM			10,346.0	10,348.0			0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
9/26/2011	MESAVERDE/ 12:00AM			10,394.0	10,395.0			0.360	EXP/	3.375	90.00		23.00	PRODUCTIO N	
9/26/2011	MESAVERDE/ 12:00AM			10,447.0	10,448.0			0.360	EXP/	3.375	90.00		23.00	PRODUCTIO N	
9/26/2011	MESAVERDE/ 12:00AM			10,490.0	10,492.0			0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	

## 3 Plots

### 3.1 Wellbore Schematic



**US ROCKIES REGION**

**Operation Summary Report**

Well: NBU 921-35F4BS RED			Spud Conductor: 5/31/2011			Spud Date: 6/7/2011		
Project: UTAH-UINTAH			Site: NBU 921-35F4 PAD			Rig Name No: ROYAL WELL SERVICE 2/2		
Event: COMPLETION			Start Date: 9/23/2011			End Date: 9/29/2011		
Active Datum: RKB @5,146.00usft (above Mean Sea Level)				UWI: SE/NW/0/9/S/21/E/35/0/0/26/PM/N/2473/W/0/2358/0/0				
Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
9/14/2011	7:00 - 7:15	0.25	COMP	48		P		HELD SAFETY MEETING HIGH PRESSURE, WHIP CHECKS ON HOSE
	7:15 - 11:30	4.25	COMP	33		P		FILL SURFACE CSG. MIRU B&C QUICK TEST. PSI TEST T/ 1000 PSI. HELD FOR 15 MIN LOST 9 PSI. PSI TEST T/ 3500 PSI. HELD FOR 15 MIN LOST 18 PSI.
								1ST PSI TEST T/ 9000 PSI. HELD FOR 30 MIN LOST 135 PSI.
								2ND PSI TEST T/ 9000 PSI. HELD FOR 30 MIN. LOST 84 PSI.
								BLEED OFF PSI. MOVE T/ NEXT WELL.SWI NO COMMUNICATION WITH SURFACE
9/23/2011	6:45 - 7:00	0.25	COMP	48		P		HELD SAFETY MEETING: PP&E
	7:00 - 7:00	0.00	COMP	37		P		RU CASED HOLE SOLUTIONS
								PERF STG 1)PU 3 1/8 EXP GUN, 23 GM, .36 HOLE SIZE. 90 & 120 DEG PHASING.
9/26/2011	6:45 - 7:00	0.25	COMP	48		P		RIH PERF AS PER PERF DESIGN. POOH.SWIFW RU SUPERIOR FRAC COMPANY HELD SAFETY MEETING
								STAYING AWAY FROM WELL HEADS WHILE PUMPING

## US ROCKIES REGION

## Operation Summary Report

Well: NBU 921-35F4BS RED		Spud Conductor: 5/31/2011			Spud Date: 6/7/2011			
Project: UTAH-UINTAH		Site: NBU 921-35F4 PAD			Rig Name No: ROYAL WELL SERVICE 2/2			
Event: COMPLETION		Start Date: 9/23/2011		End Date: 9/29/2011				
Active Datum: RKB @5,146.00usft (above Mean Sea Level)			UWI: SE/NW/0/9/S/21/E/35/0/0/26/PM/N/2473/W/0/2358/0/0					
Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
7:00	-		COMP	36	B	P		PERF & FRAC FOLLOWING WELL AS PER DESIGN W/ 30/50 MESH SAND & SLK WTR. ALL CBP'S ARE HALIBURTON 8K CBP'S. REFER TO STIM PJR FOR FLUID, SAND AND CHEMICAL VOLUME PUM'D
								FRAC STG #1] WHP=1,900#, BRK DN PERFS=4,888#, @=4.8 BPM, INJ RT=50.1, INJ PSI=6,554#, INITIAL ISIP=3,590#, INITIAL FG=.78, FINAL ISIP=3,732#, FINAL FG=.80, AVERAGE RATE=47.3, AVERAGE PRESSURE=6,622#, MAX RATE=49.5, MAX PRESSURE=8,142#, NET PRESSURE INCREASE=142#, 24/24 100% CALC PERFS OPEN. X OVER TO WIRE LINE
								PERF STG #2] P/U RIH W/ HALIBURTON 8K CBP & PERF GUN, SET CBP @=9,775', PERF MESAVERDE USING 3-1/8 EXPEND, 23 GRM, 0.36" HOLE. AS PERSAY IN PROCEDURE, X OVER TO FRAC CREW
								FRAC STG #2] WHP=1,908#, BRK DN PERFS=2,923#, @=4.7 BPM, INJ RT=39.4, INJ PSI=5,003#, INITIAL ISIP=2,311#, INITIAL FG=.68, FINAL ISIP=2,979#, FINAL FG=.75., AVERAGE RATE=49.4, AVERAGE PRESSURE=5,656#, MAX RATE=50.1, MAX PRESSURE=6,188#, NET PRESSURE INCREASE=668#, 17/24 73% CALC PERFS OPEN. X OVER TO WIRE LINE
								PERF STG #3] P/U RIH W/ HALIBURTON 8K CBP & PERF GUN, SET CBP @=9,262', PERF MESAVERDE USING 3-1/8 EXPEND, 23 GRM, 0.36" HOLE. AS PERSAY IN PROCEDURE, X OVER TO FRAC CREW
								FRAC STG #3] WHP=623#, BRK DN PERFS=4,162#, @=4.9 BPM, INJ RT=39.2, INJ PSI=6,270#, INITIAL ISIP=2,311#, INITIAL FG=.71, FINAL ISIP=3,234#, FINAL FG=.79, AVERAGE RATE=40, AVERAGE PRESSURE=6,350#, MAX RATE=44.1, MAX PRESSURE=6,622#, NET PRESSURE INCREASE=754#, 14/24 60% CALC PERFS OPEN. X OVER TO WIRE LINE
								PERF STG #4] P/U RIH W/ HALIBURTON 8K CBP & PERF GUN, SET CBP @=9,056', PERF MESAVERDE USING 3-1/8 EXPEND, 23 GRM, 0.36" HOLE. AS PERSAY IN PROCEDURE, X OVER TO FRAC CREW
								FRAC STG #4] WHP=1,475#, BRK DN PERFS=2,841#, @=4.5 BPM, INJ RT=43.3, INJ PSI=5,794#, INITIAL ISIP=2,289#, INITIAL FG=.69, FINAL ISIP=3,005#, FINAL FG=.77, AVERAGE RATE=49.5, AVERAGE PRESSURE=5,848#, MAX RATE=51.7, MAX PRESSURE=6,486#, NET PRESSURE INCREASE=716#, 16/24 66% CALC PERFS OPEN. X OVER TO WIRE LINE

## US ROCKIES REGION

## Operation Summary Report

Well: NBU 921-35F4BS RED	Spud Conductor: 5/31/2011	Spud Date: 6/7/2011						
Project: UTAH-UINTAH	Site: NBU 921-35F4 PAD	Rig Name No: ROYAL WELL SERVICE 2/2						
Event: COMPLETION	Start Date: 9/23/2011	End Date: 9/29/2011						
Active Datum: RKB @5,146.00usft (above Mean Sea Level)		UWI: SE/NW/0/9/S/21/E/35/0/0/26/PM/N/2473/W/0/2358/0/0						
Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
9/27/2011	6:45 - 7:00	0.25	COMP	48		P		PERF STG #5] P/U RIH W/ HALIBURTON 8K CBP & PERF GUN, SET CBP @=8,608', PERF MESAVERDE USING 3-1/8 EXPEND, 23 GRM, 0.36" HOLE. AS PERSAY IN PROCEDURE, X OVER TO FRAC CREW. SWIFN.
								HSM, REVIEW FRACING / R/D

## US ROCKIES REGION

## Operation Summary Report

Well: NBU 921-35F4BS RED	Spud Conductor: 5/31/2011	Spud Date: 6/7/2011						
Project: UTAH-UINTAH	Site: NBU 921-35F4 PAD	Rig Name No: ROYAL WELL SERVICE 2/2						
Event: COMPLETION	Start Date: 9/23/2011	End Date: 9/29/2011						
Active Datum: RKB @5,146.00usft (above Mean Sea Level)		UWI: SE/NW/0/9/S/21/E/35/0/0/26/PM/N/2473/V/0/2358/0/0						
Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
7:00	- 15:00	8.00	COMP	36	B	P		FRAC STG #5] WHP=1,937#, BRK DN PERFS=5,301#, @=4.8 BPM, INJ RT=51.1, INJ PSI=5,098#, INITIAL ISIP=2,294#, INITIAL FG=.71, FINAL ISIP=2,809#, FINAL FG=.77, AVERAGE RATE=51.2, AVERAGE PRESSURE=4,885#, MAX RATE=51.8, MAX PRESSURE=5,581#, NET PRESSURE INCREASE=515#, 24/24 100% CALC PERFS OPEN. X OVER TO WIRE LINE
								PERF STG #6] P/U RIH W/ HALIBURTON 8K CBP & PERF GUN, SET CBP @=8,364', PERF MESAVERDE USING 3-1/8 EXPEND, 23 GRM, 0.36" HOLE. AS PERSAY IN PROCEDURE, X OVER TO FRAC CREW
								FRAC STG #6] WHP=1,230#, BRK DN PERFS=3,167#, @=4.5 BPM, INJ RT=43.6, INJ PSI=5,804#, INITIAL ISIP=2,601#, INITIAL FG=.75, FINAL ISIP=2,582#, FINAL FG=75., AVERAGE RATE=5,722, AVERAGE PRESSURE=5,713#, MAX RATE=50.3, MAX PRESSURE=6,512#, NET PRESSURE INCREASE=-19#, 17/24 70% CALC PERFS OPEN. X OVER TO WIRE LINE
								PERF STG #7] P/U RIH W/ HALIBURTON 8K CBP & PERF GUN, SET CBP @=8,103', PERF MESAVERDE USING 3-1/8 EXPEND, 23 GRM, 0.36" HOLE. AS PERSAY IN PROCEDURE, X OVER TO FRAC CREW
								FRAC STG #7] WHP=1,818#, BRK DN PERFS=2,632#, @=4.4 BPM, INJ RT=50.3, INJ PSI=5,303#, INITIAL ISIP=2,156#, INITIAL FG=.71, FINAL ISIP=2,572#, FINAL FG=.76, AVERAGE RATE=49, AVERAGE PRESSURE=5,385#, MAX RATE=50.5, MAX PRESSURE=6,277#, NET PRESSURE INCREASE=416#, 21/24 86% CALC PERFS OPEN. X OVER TO WIRE LINE
								PERF STG #8] P/U RIH W/ HALIBURTON 8K CBP & PERF GUN, SET CBP @=7,873', PERF MESAVERDE USING 3-1/8 EXPEND, 23 GRM, 0.36" HOLE. AS PERSAY IN PROCEDURE, X OVER TO FRAC CREW
								FRAC STG #8] WHP=808#, BRK DN PERFS=3,338#, @=4.8 BPM, INJ RT=48, INJ PSI=6,371#, INITIAL ISIP=1,633#, INITIAL FG=.65, FINAL ISIP=2,351#, FINAL FG=.74, AVERAGE RATE=46.8, AVERAGE PRESSURE=6,147#, MAX RATE=48, MAX PRESSURE=6,408#, NET PRESSURE INCREASE=718#, 14/24 60% CALC PERFS OPEN. X OVER TO WIRE LINE
								P/U RIH W/ HALIBURTON 8K CBP, SET FOR TOP KILL @=7,684'
								TOTAL FLUID PUMP'D=8,112 BBLS TOTAL SAND PUMP'D=117,482#

## US ROCKIES REGION

## Operation Summary Report

Well: NBU 921-35F4BS RED	Spud Conductor: 5/31/2011	Spud Date: 6/7/2011						
Project: UTAH-UINTAH	Site: NBU 921-35F4 PAD	Rig Name No: ROYAL WELL SERVICE 2/2						
Event: COMPLETION	Start Date: 9/23/2011	End Date: 9/29/2011						
Active Datum: RKB @5,146.00usft (above Mean Sea Level)		UWI: SE/NW/0/9/S/21/E/35/0/0/26/PM/N/2473/W/0/2358/0/0						
Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
9/28/2011	6:45 - 7:00	0.25	COMP	48		P		HSM & JSA W/ROYAL WELL SERVICE
	7:00 - 7:00	0.00	COMP	30	A	P		MIRU - SPOT EQUIP. SICP 0 PSI. NDU 4" 10K BOPs. CHANGE OUT PIPE RAMS. RU FLOOR & TBG EQUIP. FILL SURFACE CSG W/TMAC. PREP & TALLY TBG. PU 3 7/8" BIT, POBS & XN NIPPLE. RIH ON 241 JTS 2 3/8" TBG. TAG FILL @ 7649'. LD 2 JTS. EOT @ 7602'. EST CIRC W/TMAC. PT CSG & RAMS TO 3000 PSI & HOLD 15 MIN. (10 PSI LOSS) RD TBG EQUIP. RU PWR SWVL & PMP. (DID NOT OBSERVE ANY FLOW ON SURFACE CSG DURING DAY)
9/29/2011	6:45 - 7:00	0.25	COMP	48		P		HSM & JSA W/ROYAL WELL SERVICE.

## US ROCKIES REGION

## Operation Summary Report

Well: NBU 921-35F4BS RED		Spud Conductor: 5/31/2011			Spud Date: 6/7/2011			
Project: UTAH-UINTAH		Site: NBU 921-35F4 PAD			Rig Name No: ROYAL WELL SERVICE 2/2			
Event: COMPLETION		Start Date: 9/23/2011		End Date: 9/29/2011				
Active Datum: RKB @5,146.00usft (above Mean Sea Level)			UWI: SE/NW/0/9/S/21/E/35/0/0/26/PM/N/2473/W/0/2358/0/0					
Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
7:00	- 14:00	7.00	COMP	44	C	P		SICP 0 PSI. EOT @ 7602'. RIH TAG FILL @ 7649'. C/O SND & D/O CBPs.
								HALCO CBP @ C/O FILL DIFF PSI FCP
								CBP #1 @ 7684' 31 FT 04 MIN 500 PSI 0 PSI CBP #2 @ 7864' 28 FT 10 MIN 800 PSI 150 PSI CBP #3 @ 8094' 32 FT 10 MIN 400 PSI 200 PSI CBP #4 @ 8362' 44 FT 04 MIN 1000 PSI 200 PSI CBP #5 @ 8611' 40 FT 06 MIN 500 PSI 350 PSI CBP #6 @ 9056' 23 FT 04 MIN 400 PSI 500 PSI CBP #7 @ 9264' 27 FT 04 MIN 900 PSI 500 PSI CBP #8 @ 9771' 37 FT 07 MIN 800 PSI 700 PSI
								RIH W/BIT TO 10,621'. (PBTD @ 10,844). FCP = 1600 PSI. PMP 10 BBLS TMAC & CIRC WELL CLEAN. ND PWR SWVL, NU TBG EQUIP. LD 37 JTS ON FLOAT, (50 TOTAL ON FLOAT). LND TBG ON HNGR W/297 JTS NEW 2 3/8" 4.7# L80 TBG @ 9462.95'. RD FLOOR & TBG EQUIP. ND BOP, DROP BALL, NUWH. PMP OFF BIT W/5 BBLS TMAC @ 2450 PSI. WAIT 30 MIN FOR BIT TO FALL TO BTM. TURN WELL TO F.B.C.
								KB 26' HANGER 0.83' XN NIPPLE 1.1' TBG 297 JTS = 9433.99' XN NIPPLE @ 9460.59' EOT @ 9461.92' (347 JTS DLVRD - 50 JTS RTND)
								TWTR = 8343 BBLS TWR = 1750 BBLS TWLTR = 6593 SICP = 1750 PSI, SITP = 0 PSI.
15:00	- 15:00	0.00	PROD	50				WELL TURNED TO SALES @ 1500 HR ON 9/29/11 - 1000 MCFD, 1920 BWPD, CP 2300#, FTP 2000#, CK 20/64"

# **US ROCKIES REGION PLANNING**

**UTAH - UTM (feet), NAD27, Zone 12N**

**UINTAH\_NBU 921-35F4 PAD**

**NBU 921-35F4BS**

**NBU 921-35F4BS**

**Design: NBU 921-35F4BS**

## **Standard Survey Report**

**09 August, 2011**



**Weatherford®**

Project: UTAH - UTM (feet), NAD27, Zone 12N  
 Site: UNTAH\_NBU 921-35F4 PAD  
 Well: NBU 921-35F4BS  
 Wellbore: NBU 921-35F4BS  
 Section:  
 SHL:  
 Design: NBU 921-35F4BS (wp02)  
 Latitude: 39.993017  
 Longitude: -109.519208  
 GL: 5120.00  
 KB: 26' RKB + 5120' GL @ 5146.00ft (H&P 298)

#### FORMATION TOP DETAILS

TVDPath	MDPath	Formation
4829.00	4858.13	Top Wasatch
7560.00	7589.21	top of cylinder
7593.00	7622.21	Top Mesaverde
8468.00	8497.22	MVU21
9026.00	9055.22	MVL1
9810.00	9839.23	Top Sego
10241.00	10270.23	Top Blackhawk



# Weatherford

 Azimuths to True North  
 Magnetic North: 11.08°

 Magnetic Field  
 Strength: 52317.6nT  
 Dip Angle: 65.86°  
 Date: 6/29/2011  
 Model: IGRF2010

#### WELL DETAILS: NBU 921-35F4BS

+N-S	+E-W	Northing	Ground Level	Easting	Latitude	Longitude	Slot
0.00	0.00	14526946.67	5120.00	2055175.13	39.993017	-109.519208	

#### CASING DETAILS

TVD	MD	Name	Size
2653.73	2679.79	8 5/8"	8 5/8"



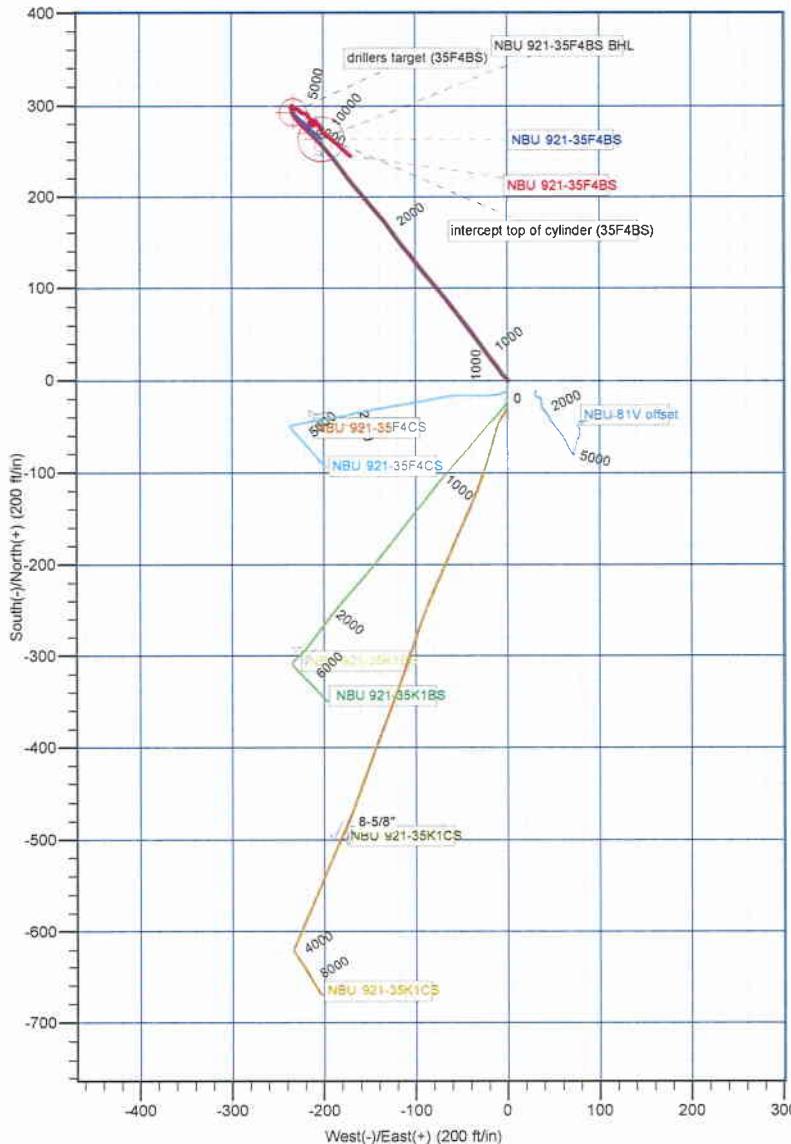
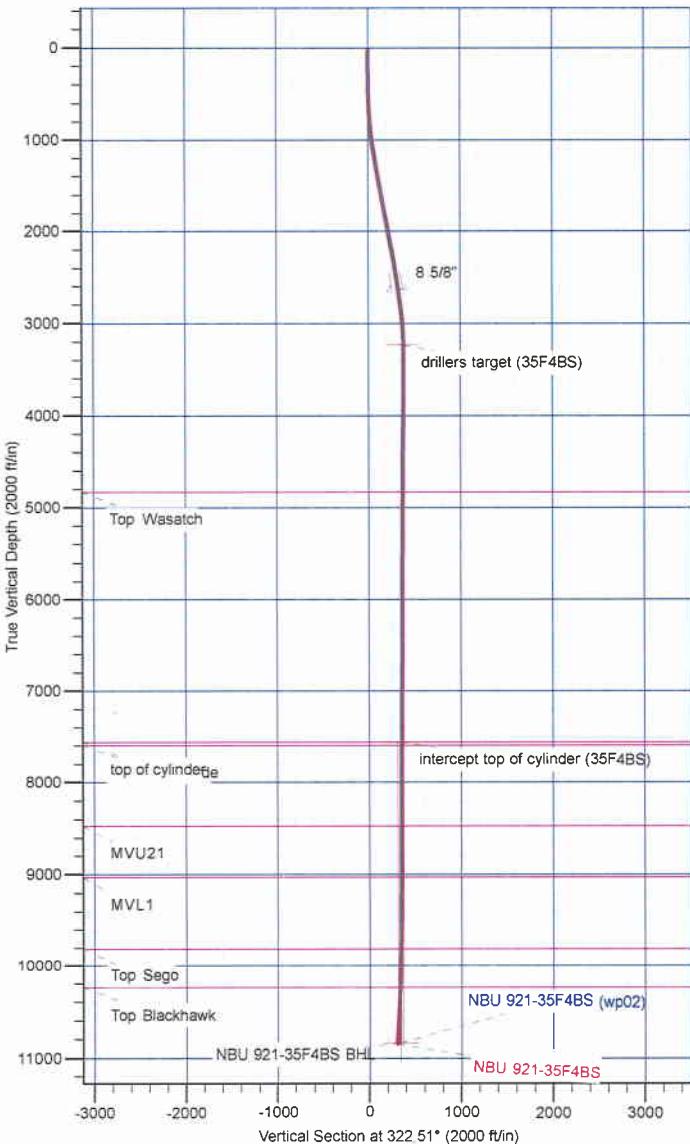
#### DESIGN TARGET DETAILS

Name	TVD	+N-S	+E-W	Northing	Easting	Latitude	Longitude	Shape
drillers target (35F4BS)	3230.50	293.22	-232.66	14527235.98	2054937.64	39.993822	-109.520039	Circle (Radius: 15.00)
intercept top of cylinder (35F4BS)	7560.00	270.24	-208.99	14527213.39	2054961.68	39.993759	-109.519954	Point
NBU 921-35F4BS BHL	10841.00	263.69	-202.26	14527206.96	2054968.52	39.993741	-109.519930	Circle (Radius: 25.00)

#### SECTION DETAILS

MD	Inc	Azi	TVD	+N-S	+E-W	Dleg	TFace	VSect
2660.00	8.54	319.40	2634.16	252.15	-197.63	0.00	0.00	320.35
2810.00	8.54	319.40	2782.50	269.07	-212.12	0.00	0.00	342.60
3259.65	0.45	134.22	3230.56	293.22	-232.61	2.00	179.74	374.23
6323.08	0.45	134.22	6293.90	276.27	-215.19	0.00	0.00	350.18
10870.23	0.00	0.00	10841.00	263.69	-202.26	0.01	180.00	332.32

(Proposed)



Project: UTAH - UTM (feet), NAD27, Zone 12N

Site: UNTAH\_NBU 921-35F4 PAD

Well: NBU 921-35F4BS

Wellbore: NBU 921-35F4BS

Section:

SHL:

Design: NBU 921-35F4BS

Latitude: 39.993017

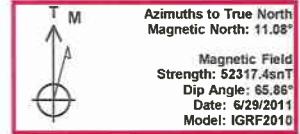
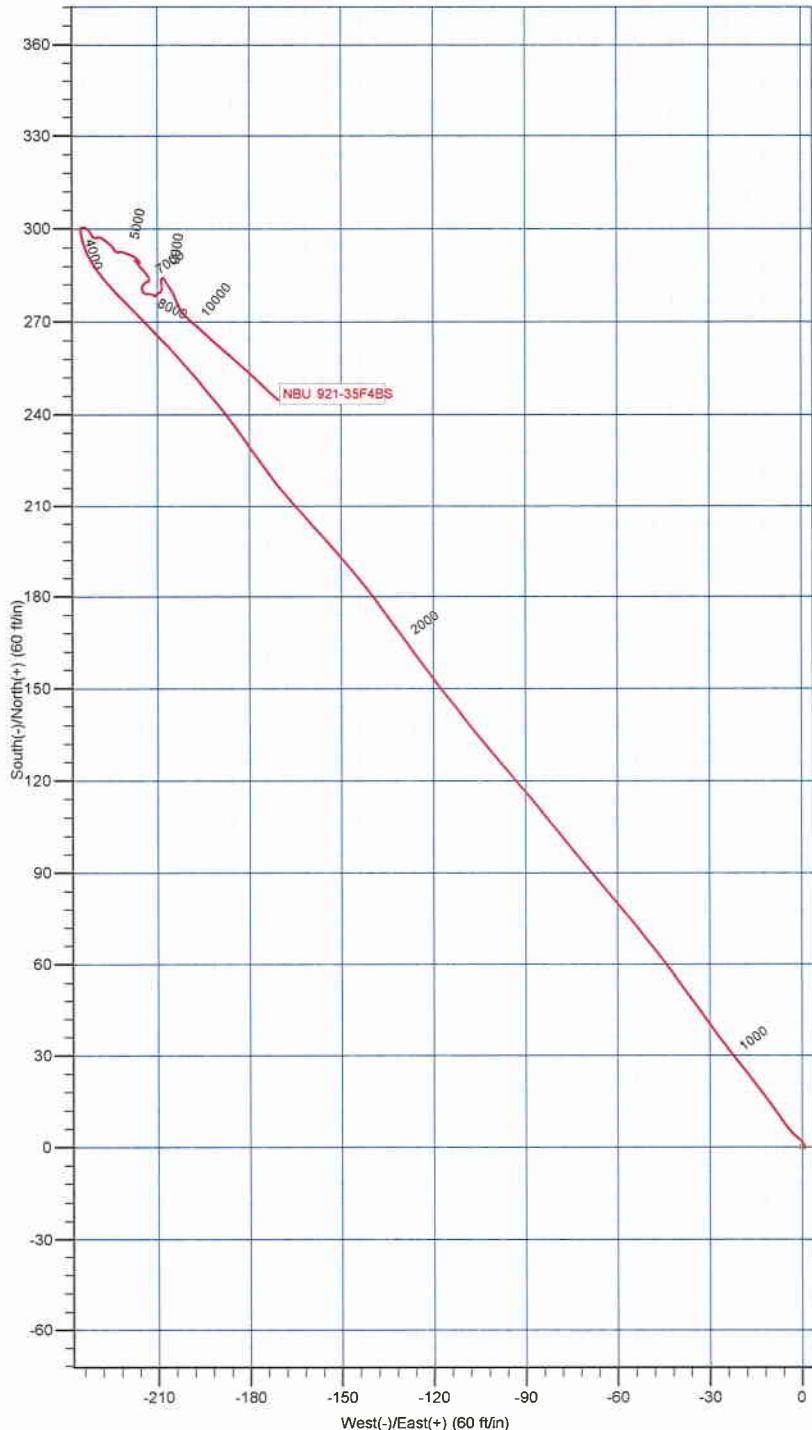
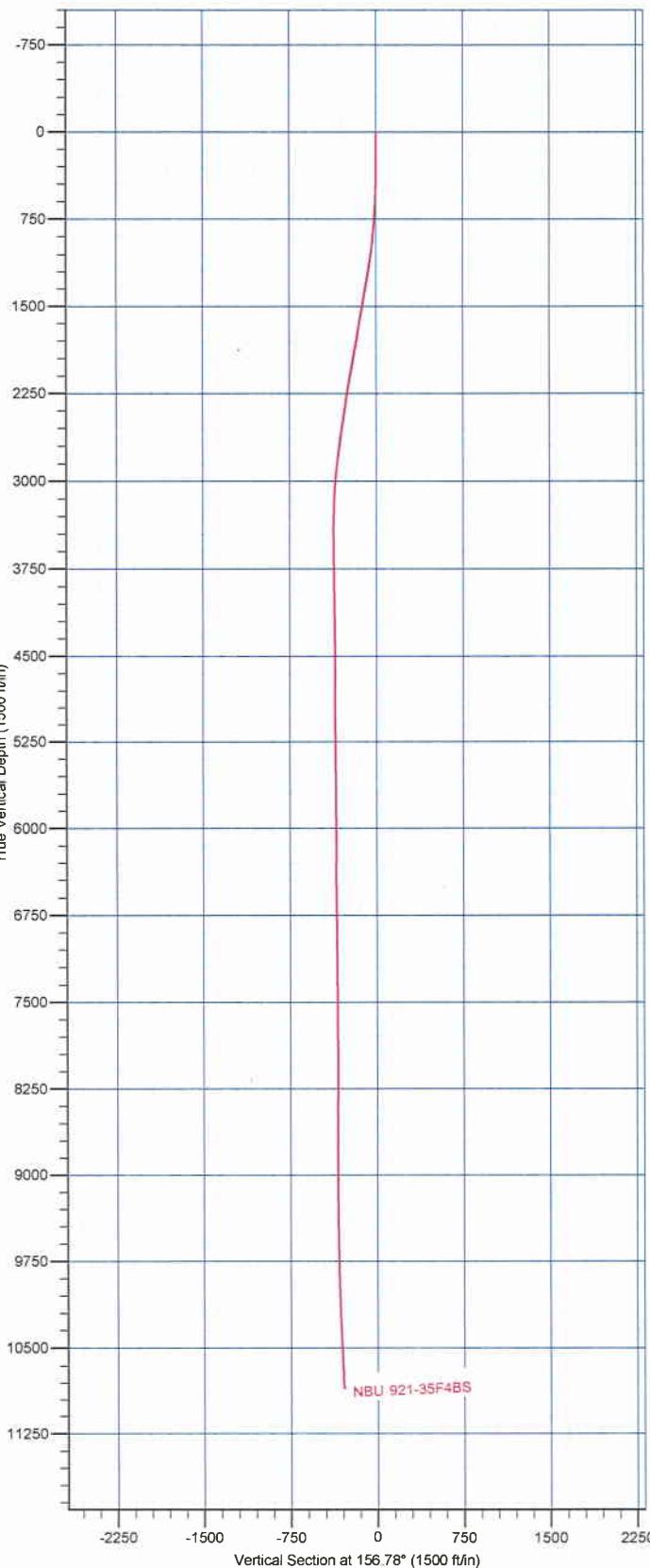
Longitude: -109.519208

GL: 5120.01

KB: 26' RKB + 5120' GL @ 5146.01ft (H&P 298)

WELL DETAILS: NBU 921-35F4BS

+N-S 0.00	+E-W 0.00	Northing 14526946.67	Ground Level: Easting 2055175.13	Latitude 5120.01	Longitude 39.993017	Slot -109.519208
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# **US ROCKIES REGION PLANNING**

**UTAH - UTM (feet), NAD27, Zone 12N**

**UINTAH\_NBU 921-35F4 PAD**

**NBU 921-35F4BS**

**NBU 921-35F4BS**

**Design: NBU 921-35F4BS**

## **Standard Survey Report**

**14 December, 2011**

# Anadarko Petroleum Corp

## Survey Report

**Company:** US ROCKIES REGION PLANNING  
**Project:** UTAH - UTM (feet), NAD27, Zone 12N  
**Site:** UNTAH\_NBU 921-35F4 PAD  
**Well:** NBU 921-35F4BS  
**Wellbore:** NBU 921-35F4BS  
**Design:** NBU 921-35F4BS

**Local Co-ordinate Reference:** Well NBU 921-35F4BS  
**TVD Reference:** 26' RKB + 5120' GL @ 5146.01ft (H&P 298)  
**MD Reference:** 26' RKB + 5120' GL @ 5146.01ft (H&P 298)  
**North Reference:** True  
**Survey Calculation Method:** Minimum Curvature  
**Database:** edmp

<b>Project</b>	UTAH - UTM (feet), NAD27, Zone 12N		
<b>Map System:</b>	Universal Transverse Mercator (US Survey Feet)	<b>System Datum:</b>	Mean Sea Level
<b>Geo Datum:</b>	NAD 1927 (NADCON CONUS)		
<b>Map Zone:</b>	Zone 12N (114 W to 108 W)		

<b>Site</b>	UINTAH_NBU 921-35F4 PAD				
<b>Site Position:</b>		<b>Northing:</b>	14,526,946.67 usft	<b>Latitude:</b>	39.993017
<b>From:</b>	Lat/Long	<b>Easting:</b>	2,055,175.13 usft	<b>Longitude:</b>	-109.519208
<b>Position Uncertainty:</b>	0.00 ft	<b>Slot Radius:</b>	0 "	<b>Grid Convergence:</b>	0.95 °

<b>Well</b>	NBU 921-35F4BS				
<b>Well Position</b>	+N-S 0.00 ft	<b>Northing:</b>	14,526,946.67 usft	<b>Latitude:</b>	39.993017
	+E/W 0.00 ft	<b>Easting:</b>	2,055,175.13 usft	<b>Longitude:</b>	-109.519208
<b>Position Uncertainty</b>	0.00 ft	<b>Wellhead Elevation:</b>	ft	<b>Ground Level:</b>	5,120.01 ft

<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination</b> (°)	<b>Dip Angle</b> (°)	<b>Field Strength</b> (nT)
	IGRF2010	6/29/2011	11.08	65.86	52,317

<b>Design</b>	NBU 921-35F4BS				
<b>Audit Notes:</b>					
<b>Version:</b>	1.0	<b>Phase:</b>	ACTUAL	<b>Tie On Depth:</b>	17.00
<b>Vertical Section:</b>		<b>Depth From (TVD)</b> (ft)	<b>+N-S</b> (ft)	<b>+E/W</b> (ft)	<b>Direction</b> (°)
		17.00	0.00	0.00	156.78

<b>Survey Program</b>		<b>Date</b>	8/9/2011	
<b>From</b> (ft)	<b>To</b> (ft)	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Description</b>
195.00	2,660.01	Survey #1 (NBU 921-35F4BS)	MWD	MWD - Standard
2,660.01	10,878.02	Survey #2 (NBU 921-35F4BS)	MWD	MWD - Standard

<b>Measured Depth</b> (ft)	<b>Inclination</b> (°)	<b>Azimuth</b> (°)	<b>Vertical Depth</b> (ft)	<b>+N-S</b> (ft)	<b>+E/W</b> (ft)	<b>Vertical Section</b> (ft)	<b>Dogleg Rate</b> (°/100usft)	<b>Build Rate</b> (°/100usft)	<b>Turn Rate</b> (°/100usft)
17.00	0.00	0.00	17.00	0.00	0.00	0.00	0.00	0.00	0.00
195.00	0.26	121.73	195.00	-0.21	0.34	0.33	0.15	0.15	0.00
286.00	0.24	67.79	286.00	-0.25	0.70	0.50	0.25	-0.02	-59.27
379.00	0.87	345.32	379.00	0.51	0.70	-0.19	0.94	0.68	-88.68
474.00	1.49	311.63	473.98	2.03	-0.41	-2.02	0.95	0.65	-35.46
569.00	2.03	312.28	568.93	3.98	-2.58	-4.67	0.57	0.57	0.68
665.00	3.08	324.19	664.84	7.21	-5.34	-8.74	1.22	1.09	12.41
760.00	4.23	325.50	759.64	12.17	-8.82	-14.66	1.21	1.21	1.38
823.00	4.91	321.98	822.44	16.21	-11.80	-19.55	1.17	1.08	-5.59
855.00	5.23	324.67	854.32	18.48	-13.49	-22.30	1.25	1.00	8.41

# Anadarko Petroleum Corp

## Survey Report

<b>Company:</b>	US ROCKIES REGION PLANNING	<b>Local Co-ordinate Reference:</b>	Well NBU 921-35F4BS
<b>Project:</b>	UTAH - UTM (feet), NAD27, Zone 12N	<b>TVD Reference:</b>	26' RKB + 5120' GL @ 5146.01ft (H&P 298)
<b>Site:</b>	UINTAH_NBU 921-35F4 PAD	<b>MD Reference:</b>	26' RKB + 5120' GL @ 5146.01ft (H&P 298)
<b>Well:</b>	NBU 921-35F4BS	<b>North Reference:</b>	True
<b>Wellbore:</b>	NBU 921-35F4BS	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	NBU 921-35F4BS	<b>Database:</b>	edmp

Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/S (ft)	+E/W (ft)	Vertical Section (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
950.00	6.79	320.55	948.79	26.35	-19.56	-31.93	1.70	1.64	-4.34	
1,044.00	8.12	324.37	1,041.99	36.04	-26.96	-43.74	1.51	1.41	4.06	
1,140.00	9.08	324.50	1,136.91	47.71	-35.31	-57.77	1.00	1.00	0.14	
1,235.00	9.47	323.36	1,230.67	60.09	-44.32	-72.69	0.45	0.41	-1.20	
1,330.00	10.10	320.91	1,324.29	72.82	-54.24	-88.31	0.79	0.66	-2.58	
1,426.00	9.93	319.55	1,418.83	85.66	-64.92	-104.31	0.30	-0.18	-1.42	
1,521.00	10.17	322.11	1,512.37	98.51	-75.38	-120.25	0.53	0.25	2.69	
1,617.00	9.87	319.64	1,606.91	111.47	-85.92	-136.31	0.55	-0.31	-2.57	
1,711.00	10.37	319.63	1,699.44	124.05	-96.61	-152.09	0.53	0.53	-0.01	
1,806.00	10.10	321.00	1,792.93	137.04	-107.39	-168.28	0.38	-0.28	1.44	
1,900.00	10.12	322.45	1,885.47	149.99	-117.61	-184.21	0.27	0.02	1.54	
1,995.00	11.33	324.74	1,978.81	164.23	-128.09	-201.43	1.35	1.27	2.41	
2,090.00	11.64	322.93	2,071.91	179.50	-139.25	-219.86	0.50	0.33	-1.91	
2,186.00	10.24	318.92	2,166.17	193.66	-150.70	-237.39	1.66	-1.46	-4.18	
2,281.00	9.54	318.19	2,259.75	205.89	-161.49	-252.88	0.75	-0.74	-0.77	
2,376.00	9.23	322.05	2,353.48	217.77	-171.43	-267.71	0.74	-0.33	4.06	
2,469.00	9.16	325.87	2,445.29	229.77	-180.17	-282.20	0.66	-0.08	4.11	
2,564.01	8.26	321.30	2,539.19	241.36	-188.68	-296.20	1.19	-0.95	-4.81	
2,660.01	8.54	319.40	2,634.16	252.15	-197.63	-309.65	0.41	0.29	-1.98	
2,749.01	8.53	317.64	2,722.18	262.05	-206.38	-322.19	0.29	-0.01	-1.98	
2,844.01	8.01	313.04	2,816.19	271.77	-215.96	-334.91	0.89	-0.55	-4.84	
2,938.01	6.38	318.04	2,909.45	280.13	-224.24	-345.85	1.86	-1.73	5.32	
3,033.01	4.44	324.99	3,004.02	287.06	-229.88	-354.45	2.15	-2.04	7.32	
3,127.01	3.13	334.99	3,097.82	292.37	-233.05	-360.57	1.56	-1.39	10.64	
3,221.01	1.56	354.36	3,191.74	295.97	-234.26	-364.36	1.85	-1.67	20.61	
3,316.01	1.63	335.61	3,286.70	298.49	-234.95	-366.94	0.55	0.07	-19.74	
3,411.01	0.69	44.61	3,381.68	300.13	-235.11	-368.51	1.61	-0.99	72.63	
3,505.01	0.50	83.61	3,475.68	300.57	-234.30	-368.60	0.46	-0.20	41.49	
3,600.01	0.56	116.86	3,570.68	300.41	-233.47	-368.13	0.32	0.06	35.00	
3,694.01	0.56	123.24	3,664.67	299.95	-232.68	-367.39	0.07	0.00	6.79	
3,788.01	0.94	152.49	3,758.66	299.02	-231.94	-366.24	0.56	0.40	31.12	
3,883.01	1.13	152.86	3,853.65	297.49	-231.15	-364.53	0.20	0.20	0.39	
3,977.01	0.81	52.99	3,947.64	297.07	-230.20	-363.76	1.59	-0.34	-106.24	
4,072.01	0.69	92.24	4,042.63	297.45	-229.09	-363.68	0.54	-0.13	41.32	
4,166.01	1.13	120.86	4,136.62	296.95	-227.73	-362.68	0.66	0.47	30.45	
4,261.01	1.50	132.86	4,231.60	295.62	-226.01	-360.79	0.48	0.39	12.63	
4,355.01	0.88	137.74	4,325.58	294.25	-224.63	-358.98	0.67	-0.66	5.19	
4,449.01	1.06	152.24	4,419.56	292.95	-223.74	-357.43	0.32	0.19	15.43	
4,544.01	0.38	36.74	4,514.56	292.42	-223.14	-356.71	1.34	-0.72	-121.58	
4,638.01	0.31	95.99	4,608.56	292.65	-222.70	-356.75	0.37	-0.07	63.03	
4,732.01	0.06	333.61	4,702.56	292.66	-222.47	-356.67	0.37	-0.27	-130.19	
4,827.01	0.19	67.49	4,797.56	292.77	-222.35	-356.72	0.21	0.14	98.82	
4,922.01	0.38	103.74	4,892.56	292.75	-221.89	-356.53	0.27	0.20	38.16	

**Anadarko Petroleum Corp**

Survey Report

<b>Company:</b>	US ROCKIES REGION PLANNING	<b>Local Co-ordinate Reference:</b>	Well NBU 921-35F4BS
<b>Project:</b>	UTAH - UTM (feet), NAD27, Zone 12N	<b>TVD Reference:</b>	26' RKB + 5120' GL @ 5146.01ft (H&P 298)
<b>Site:</b>	UINTAH_NBU 921-35F4 PAD	<b>MD Reference:</b>	26' RKB + 5120' GL @ 5146.01ft (H&P 298)
<b>Well:</b>	NBU 921-35F4BS	<b>North Reference:</b>	True
<b>Wellbore:</b>	NBU 921-35F4BS	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	NBU 921-35F4BS	<b>Database:</b>	edmp

**Survey**

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/S (ft)	+E/W (ft)	Vertical Section (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
5,016.01	0.19	102.99	4,986.55	292.65	-221.44	-356.25	0.20	-0.20	-0.80
5,111.01	0.44	100.99	5,081.55	292.54	-220.93	-355.95	0.26	0.26	-2.11
5,206.01	0.69	113.11	5,176.55	292.25	-220.04	-355.33	0.29	0.26	12.76
5,300.01	0.50	117.86	5,270.54	291.83	-219.16	-354.60	0.21	-0.20	5.05
5,395.01	0.50	104.11	5,365.54	291.54	-218.39	-354.03	0.13	0.00	-14.47
5,489.01	0.19	114.99	5,459.54	291.37	-217.85	-353.66	0.34	-0.33	11.57
5,584.01	0.44	132.99	5,554.54	291.06	-217.44	-353.21	0.28	0.26	18.95
5,678.01	0.56	118.24	5,648.53	290.59	-216.77	-352.52	0.19	0.13	-15.69
5,772.01	0.50	137.86	5,742.53	290.07	-216.09	-351.77	0.20	-0.06	20.87
5,867.01	0.88	169.24	5,837.52	289.05	-215.68	-350.67	0.55	0.40	33.03
5,961.01	0.81	319.99	5,931.52	288.85	-215.97	-350.60	1.74	-0.07	160.37
6,056.01	0.38	325.86	6,026.52	289.62	-216.58	-351.55	0.46	-0.45	6.18
6,150.01	0.25	293.49	6,120.51	289.96	-216.94	-352.01	0.23	-0.14	-34.44
6,244.01	0.13	255.86	6,214.51	290.02	-217.24	-352.17	0.18	-0.13	-40.03
6,339.01	0.13	152.11	6,309.51	289.90	-217.29	-352.08	0.22	0.00	-109.21
6,433.01	0.13	133.24	6,403.51	289.73	-217.16	-351.88	0.05	0.00	-20.07
6,527.01	0.31	129.74	6,497.51	289.49	-216.89	-351.56	0.19	0.19	-3.72
6,622.01	0.56	148.11	6,592.51	288.94	-216.45	-350.87	0.30	0.26	19.34
6,717.01	0.63	141.86	6,687.51	288.13	-215.88	-349.90	0.10	0.07	-6.58
6,811.01	0.56	126.11	6,781.50	287.45	-215.19	-349.01	0.19	-0.07	-16.76
6,906.01	0.75	139.61	6,876.50	286.71	-214.41	-348.02	0.26	0.20	14.21
7,000.01	0.94	144.11	6,970.49	285.61	-213.56	-346.68	0.21	0.20	4.79
7,095.01	1.13	150.36	7,065.47	284.17	-212.64	-344.99	0.23	0.20	6.58
7,190.01	0.56	254.61	7,160.46	283.23	-212.62	-344.12	1.45	-0.60	109.74
7,284.01	0.50	252.86	7,254.46	282.99	-213.46	-344.22	0.07	-0.06	-1.86
7,379.01	0.50	223.24	7,349.46	282.56	-214.14	-344.10	0.27	0.00	-31.18
7,473.02	0.69	211.36	7,443.45	281.78	-214.71	-343.61	0.24	0.20	-12.64
7,568.02	0.63	173.74	7,538.45	280.77	-214.95	-342.78	0.45	-0.06	-39.60
7,662.02	0.94	158.86	7,632.44	279.54	-214.62	-341.51	0.39	0.33	-15.83
7,757.02	0.88	76.49	7,727.43	278.98	-213.63	-340.61	1.26	-0.06	-86.71
7,852.02	1.06	101.61	7,822.42	278.98	-212.06	-339.99	0.48	0.19	26.44
7,946.02	0.50	133.99	7,916.41	278.52	-210.91	-339.11	0.74	-0.60	34.45
8,040.02	0.06	283.49	8,010.41	278.24	-210.67	-338.76	0.59	-0.47	159.04
8,135.02	0.50	38.48	8,105.40	278.58	-210.46	-338.99	0.56	0.46	121.04
8,229.02	0.44	47.86	8,199.40	279.14	-209.93	-339.30	0.10	-0.06	9.98
8,324.02	0.75	69.36	8,294.40	279.61	-209.08	-339.39	0.40	0.33	22.63
8,418.02	0.56	352.74	8,388.39	280.28	-208.56	-339.81	0.88	-0.20	-81.51
8,513.02	0.50	17.49	8,483.39	281.14	-208.50	-340.57	0.25	-0.06	26.05
8,607.02	0.69	346.24	8,577.38	282.08	-208.51	-341.44	0.39	0.20	-33.24
8,704.02	0.50	354.11	8,674.38	283.07	-208.69	-342.42	0.21	-0.20	8.11
8,798.02	0.31	350.86	8,768.38	283.72	-208.77	-343.05	0.20	-0.20	-3.46
8,892.02	0.31	59.36	8,862.38	284.10	-208.60	-343.33	0.37	0.00	72.87
8,987.02	0.19	94.24	8,957.38	284.22	-208.22	-343.29	0.20	-0.13	36.72

# Anadarko Petroleum Corp

## Survey Report

**Company:** US ROCKIES REGION PLANNING  
**Project:** UTAH - UTM (feet), NAD27, Zone 12N  
**Site:** UNTAH\_NBU 921-35F4 PAD  
**Well:** NBU 921-35F4BS  
**Wellbore:** NBU 921-35F4BS  
**Design:** NBU 921-35F4BS

**Local Co-ordinate Reference:** Well NBU 921-35F4BS  
**TVD Reference:** 26' RKB + 5120' GL @ 5146.01ft (H&P 298)  
**MD Reference:** 26' RKB + 5120' GL @ 5146.01ft (H&P 298)  
**North Reference:** True  
**Survey Calculation Method:** Minimum Curvature  
**Database:** edmp

### Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/S (ft)	+E/W (ft)	Vertical Section (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
9,131.02	0.13	109.36	9,101.38	284.15	-207.82	-343.07	0.05	-0.04	10.50
9,175.02	0.25	178.24	9,145.37	284.04	-207.77	-342.95	0.54	0.27	156.55
9,270.02	0.56	148.24	9,240.37	283.44	-207.52	-342.30	0.38	0.33	-31.58
9,364.02	0.69	148.36	9,334.37	282.57	-206.99	-341.28	0.14	0.14	0.13
9,459.02	0.75	143.74	9,429.36	281.58	-206.32	-340.11	0.09	0.06	-4.86
9,553.02	1.19	147.11	9,523.35	280.26	-205.42	-338.55	0.47	0.47	3.59
9,648.02	1.19	156.11	9,618.33	278.53	-204.49	-336.59	0.20	0.00	9.47
9,742.02	1.19	162.36	9,712.31	276.71	-203.80	-334.65	0.14	0.00	6.65
9,836.02	1.69	149.99	9,806.28	274.58	-202.81	-332.30	0.62	0.53	-13.16
9,931.02	1.81	138.99	9,901.23	272.23	-201.12	-329.48	0.37	0.13	-11.58
10,026.02	1.88	129.49	9,996.18	270.11	-198.94	-326.66	0.33	0.07	-10.00
10,121.02	2.13	129.49	10,091.13	268.00	-196.37	-323.71	0.26	0.26	0.00
10,215.02	2.06	131.86	10,185.06	265.76	-193.76	-320.63	0.12	-0.07	2.52
10,310.02	2.44	132.86	10,279.99	263.24	-191.01	-317.23	0.40	0.40	1.05
10,405.02	2.44	129.74	10,374.90	260.57	-187.97	-313.58	0.14	0.00	-3.28
10,500.02	2.81	131.24	10,469.80	257.75	-184.67	-309.68	0.40	0.39	1.58
10,594.02	2.81	131.74	10,563.69	254.69	-181.22	-305.51	0.03	0.00	0.53
10,689.02	2.75	133.49	10,658.58	251.57	-177.82	-301.31	0.11	-0.06	1.84
10,783.02	3.00	133.11	10,752.46	248.34	-174.39	-296.98	0.27	0.27	-0.40
10,828.02	3.06	132.11	10,797.40	246.73	-172.64	-294.81	0.18	0.13	-2.22
10,878.02	3.06	132.11	10,847.33	244.94	-170.66	-292.39	0.00	0.00	0.00

### Design Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/S (ft)	+E/W (ft)	
2,660.01	2,634.16	252.15	-197.63	tie on point
10,828.02	10,797.40	246.73	-172.64	last mwd surveys
10,878.02	10,847.33	244.94	-170.66	projection

Checked By: \_\_\_\_\_ Approved By: \_\_\_\_\_ Date: \_\_\_\_\_

# **US ROCKIES REGION PLANNING**

**UTAH - UTM (feet), NAD27, Zone 12N**

**UINTAH\_NBU 921-35F4 PAD**

**NBU 921-35F4BS**

**NBU 921-35F4BS**

**Design: NBU 921-35F4BS**

## **Survey Report - Geographic**

**09 August, 2011**



**Weatherford®**

## APC

## Survey Report - Geographic



Weatherford

**Company:** US ROCKIES REGION PLANNING  
**Project:** UTAH - UTM (feet), NAD27, Zone 12N  
**Site:** UNTAH\_NBU 921-35F4 PAD  
**Well:** NBU 921-35F4BS  
**Wellbore:** NBU 921-35F4BS  
**Design:** NBU 921-35F4BS

**Local Co-ordinate Reference:**

Well NBU 921-35F4BS

**TVD Reference:**

26' RKB + 5120' GL @ 5146.00ft (H&amp;P 298)

**MD Reference:**

26' RKB + 5120' GL @ 5146.00ft (H&amp;P 298)

**North Reference:**

True

**Survey Calculation Method:**

Minimum Curvature

**Database:**

edm5000p

**Project** UTAH - UTM (feet), NAD27, Zone 12N

<b>Map System:</b>	Universal Transverse Mercator (US Survey Feet)	<b>System Datum:</b>	Mean Sea Level
<b>Geo Datum:</b>	NAD 1927 (NADCON CONUS)		
<b>Map Zone:</b>	Zone 12N (114 W to 108 W)		

**Site** UNTAH\_NBU 921-35F4 PAD

<b>Site Position:</b>	Northing:	14,526,946.67 ft	<b>Latitude:</b>	39.993017
From:	Easting:	2,055,175.13 ft	Longitude:	-109.519208
<b>Position Uncertainty:</b>	Slot Radius:	0 "	<b>Grid Convergence:</b>	0.95 °

**Well** NBU 921-35F4BS

<b>Well Position</b>	+N-S	0.00 ft	<b>Northing:</b>	14,526,946.67 ft	<b>Latitude:</b>	39.993017
	+E-W	0.00 ft	Easting:	2,055,175.13 ft	Longitude:	-109.519208
<b>Position Uncertainty</b>		0.00 ft	<b>Wellhead Elevation:</b>	ft	<b>Ground Level:</b>	5,120.00 ft

**Wellbore** NBU 921-35F4BS

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	6/29/2011	11.08	65.86	52,318

**Design** NBU 921-35F4BS

**Audit Notes:**

<b>Version:</b>	1.0	<b>Phase:</b>	ACTUAL	<b>Tie On Depth:</b>	17.00
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<b>Vertical Section:</b>	<b>Depth From (TVD)</b> <b>(ft)</b>	<b>+N-S</b> <b>(ft)</b>	<b>+E-W</b> <b>(ft)</b>	<b>Direction</b> <b>(°)</b>
	17.00	0.00	0.00	156.78

**Survey Program** Date 8/9/2011

From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description
195.00	2,660.00	Survey #1 (NBU 921-35F4BS)	MWD	MWD - Standard
2,660.00	10,878.00	Survey #2 (NBU 921-35F4BS)	MWD	MWD - Standard

**Survey**

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N-S (ft)	+E-W (ft)	Map Northing (ft)	Map Easting (ft)	Map Latitude	Map Longitude
17.00	0.00	0.00	17.00	0.00	0.00	14,526,946.67	2,055,175.13	39.993017	-109.519208
195.00	0.26	121.73	195.00	-0.21	0.34	14,526,946.46	2,055,175.48	39.993017	-109.519207
286.00	0.24	67.79	286.00	-0.25	0.70	14,526,946.43	2,055,175.83	39.993016	-109.519206
379.00	0.87	345.32	378.99	0.51	0.70	14,526,947.19	2,055,175.82	39.993018	-109.519206
474.00	1.49	311.63	473.98	2.03	-0.41	14,526,948.69	2,055,174.69	39.993023	-109.519210
569.00	2.03	312.28	568.93	3.98	-2.58	14,526,950.61	2,055,172.49	39.993028	-109.519217
665.00	3.08	324.19	664.83	7.21	-5.34	14,526,953.80	2,055,169.67	39.993037	-109.519227
760.00	4.23	325.50	759.64	12.17	-8.82	14,526,958.69	2,055,166.11	39.993051	-109.519240
823.00	4.91	321.98	822.44	16.21	-11.80	14,526,962.68	2,055,163.06	39.993062	-109.519250
855.00	5.23	324.67	854.31	18.48	-13.49	14,526,964.92	2,055,161.34	39.993068	-109.519256
950.00	6.79	320.55	948.79	26.35	-19.56	14,526,972.69	2,055,155.14	39.993089	-109.519278

## APC

## Survey Report - Geographic



Weatherford

**Company:** US ROCKIES REGION PLANNING  
**Project:** UTAH - UTM (feet), NAD27, Zone 12N  
**Site:** UNTAH\_NBU 921-35F4 PAD  
**Well:** NBU 921-35F4BS  
**Wellbore:** NBU 921-35F4BS  
**Design:** NBU 921-35F4BS

**Local Co-ordinate Reference:**  
**TVD Reference:**  
**MD Reference:**  
**North Reference:**  
**Survey Calculation Method:**  
**Database:**

Well NBU 921-35F4BS  
26' RKB + 5120' GL @ 5146.00ft (H&P 298)  
26' RKB + 5120' GL @ 5146.00ft (H&P 298)  
True  
Minimum Curvature  
edm5000p

**Survey**

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N-S (ft)	+E-W (ft)	Map Northing (ft)	Map Easting (ft)	Latitude	Longitude
1,044.00	8.12	324.37	1,041.99	36.04	-26.96	14,526,982.25	2,055,147.58	39.993116	-109.519305
1,140.00	9.08	324.50	1,136.91	47.71	-35.31	14,526,993.79	2,055,139.04	39.993148	-109.519334
1,235.00	9.47	323.36	1,230.67	60.09	-44.32	14,527,006.01	2,055,129.82	39.993182	-109.519366
1,330.00	10.10	320.91	1,324.29	72.82	-54.24	14,527,018.58	2,055,119.69	39.993217	-109.519402
1,426.00	9.93	319.55	1,418.83	85.66	-64.92	14,527,031.24	2,055,108.80	39.993252	-109.519440
1,521.00	10.17	322.11	1,512.37	98.51	-75.38	14,527,043.91	2,055,098.12	39.993288	-109.519477
1,617.00	9.87	319.64	1,606.90	111.47	-85.92	14,527,056.70	2,055,087.37	39.993323	-109.519515
1,711.00	10.37	319.63	1,699.44	124.05	-96.61	14,527,069.10	2,055,076.47	39.993353	-109.519553
1,806.00	10.10	321.00	1,792.93	137.04	-107.39	14,527,081.91	2,055,065.48	39.993393	-109.519592
1,900.00	10.12	322.45	1,885.47	149.99	-117.61	14,527,094.69	2,055,055.04	39.993429	-109.519628
1,995.00	11.33	324.74	1,978.81	164.23	-128.09	14,527,108.75	2,055,044.33	39.993468	-109.519666
2,090.00	11.64	322.93	2,071.91	179.50	-139.25	14,527,123.83	2,055,032.92	39.993510	-109.519705
2,186.00	10.24	318.92	2,166.16	193.66	-150.70	14,527,137.80	2,055,021.24	39.993549	-109.519746
2,281.00	9.54	318.19	2,259.75	205.89	-161.49	14,527,149.85	2,055,010.24	39.993582	-109.519785
2,376.00	9.23	322.05	2,353.48	217.77	-171.43	14,527,161.56	2,055,000.11	39.993615	-109.519820
2,469.00	9.16	325.87	2,445.28	229.77	-180.17	14,527,173.42	2,054,991.17	39.993648	-109.519851
2,564.00	8.26	321.30	2,539.19	241.36	-188.68	14,527,184.86	2,054,982.47	39.993680	-109.519882
2,660.00	8.54	319.40	2,634.16	252.15	-197.63	14,527,195.51	2,054,973.34	39.993709	-109.519914
<b>tie on point</b>									
2,749.00	8.53	317.64	2,722.17	262.05	-206.38	14,527,205.26	2,054,964.43	39.993737	-109.519945
2,844.00	8.01	313.04	2,816.19	271.77	-215.96	14,527,214.82	2,054,954.68	39.993763	-109.519979
2,938.00	6.38	318.04	2,909.44	280.13	-224.24	14,527,223.03	2,054,946.27	39.993786	-109.520009
3,033.00	4.44	324.99	3,004.02	287.06	-229.88	14,527,229.88	2,054,940.51	39.993805	-109.520029
3,127.00	3.13	334.99	3,097.81	292.37	-233.05	14,527,235.13	2,054,937.25	39.993820	-109.520040
3,221.00	1.56	354.36	3,191.73	295.97	-234.26	14,527,238.71	2,054,935.98	39.993830	-109.520045
3,316.00	1.63	335.61	3,286.69	298.49	-234.95	14,527,241.21	2,054,935.26	39.993837	-109.520047
3,411.00	0.69	44.61	3,381.68	300.12	-235.10	14,527,242.85	2,054,935.07	39.993841	-109.520048
3,505.00	0.50	83.61	3,475.67	300.57	-234.30	14,527,243.31	2,054,935.87	39.993842	-109.520045
3,600.00	0.56	116.86	3,570.67	300.41	-233.47	14,527,243.16	2,054,936.70	39.993842	-109.520042
3,694.00	0.56	123.24	3,664.66	299.95	-232.68	14,527,242.71	2,054,937.50	39.993841	-109.520039
3,788.00	0.94	152.49	3,758.66	299.01	-231.94	14,527,241.79	2,054,938.26	39.993838	-109.520036
3,883.00	1.13	152.86	3,853.64	297.49	-231.15	14,527,240.28	2,054,939.07	39.993834	-109.520033
3,977.00	0.81	52.99	3,947.63	297.06	-230.20	14,527,239.87	2,054,940.03	39.993833	-109.520030
4,072.00	0.69	92.24	4,042.63	297.45	-229.09	14,527,240.27	2,054,941.13	39.993834	-109.520026
4,166.00	1.13	120.86	4,136.61	296.95	-227.73	14,527,239.80	2,054,942.50	39.993832	-109.520021
4,261.00	1.50	132.86	4,231.59	295.62	-226.01	14,527,238.50	2,054,944.24	39.993829	-109.520015
4,355.00	0.88	137.74	4,325.57	294.25	-224.63	14,527,237.15	2,054,945.65	39.993825	-109.520010
4,449.00	1.06	152.24	4,419.55	292.95	-223.74	14,527,235.86	2,054,946.56	39.993821	-109.520007
4,544.00	0.38	36.74	4,514.55	292.42	-223.14	14,527,235.35	2,054,947.16	39.993820	-109.520005
4,638.00	0.31	95.99	4,608.55	292.65	-222.70	14,527,235.58	2,054,947.60	39.993821	-109.520003
4,732.00	0.06	333.61	4,702.55	292.66	-222.47	14,527,235.60	2,054,947.83	39.993821	-109.520002
4,827.00	0.19	67.49	4,797.55	292.77	-222.34	14,527,235.71	2,054,947.95	39.993821	-109.520002
4,922.00	0.38	103.74	4,892.55	292.75	-221.89	14,527,235.70	2,054,948.40	39.993821	-109.520000
5,016.00	0.19	102.99	4,986.54	292.65	-221.44	14,527,235.60	2,054,948.86	39.993821	-109.519999
5,111.00	0.44	100.99	5,081.54	292.54	-220.93	14,527,235.50	2,054,949.37	39.993820	-109.519997
5,206.00	0.69	113.11	5,176.54	292.25	-220.04	14,527,235.22	2,054,950.26	39.993820	-109.519994
5,300.00	0.50	117.86	5,270.53	291.83	-219.16	14,527,234.82	2,054,951.15	39.993818	-109.519991
5,395.00	0.50	104.11	5,365.53	291.54	-218.39	14,527,234.54	2,054,951.93	39.993818	-109.519988
5,489.00	0.19	114.99	5,459.53	291.37	-217.85	14,527,234.38	2,054,952.47	39.993817	-109.519986
5,584.00	0.44	132.99	5,554.53	291.06	-217.44	14,527,234.08	2,054,952.88	39.993816	-109.519984
5,678.00	0.56	118.24	5,648.52	290.59	-216.77	14,527,233.62	2,054,953.56	39.993815	-109.519982
5,772.00	0.50	137.86	5,742.52	290.07	-216.09	14,527,233.11	2,054,954.25	39.993814	-109.519980
5,867.00	0.88	169.24	5,837.51	289.05	-215.68	14,527,232.10	2,054,954.68	39.993811	-109.519978
5,961.00	0.81	319.99	5,931.51	288.85	-215.97	14,527,231.89	2,054,954.39	39.993810	-109.519979
6,056.00	0.38	325.86	6,026.50	289.62	-216.58	14,527,232.66	2,054,953.77	39.993812	-109.519981



**Company:** US ROCKIES REGION PLANNING  
**Project:** UTAH - UTM (feet), NAD27, Zone 12N  
**Site:** UNTAH\_NBU 921-35F4 PAD  
**Well:** NBU 921-35F4BS  
**Wellbore:** NBU 921-35F4BS  
**Design:** NBU 921-35F4BS

**Local Co-ordinate Reference:** Well NBU 921-35F4BS  
**TVD Reference:** 26' RKB + 5120' GL @ 5146.00ft (H&P 298)  
**MD Reference:** 26' RKB + 5120' GL @ 5146.00ft (H&P 298)  
**North Reference:** True  
**Survey Calculation Method:** Minimum Curvature  
**Database:** edm5000p

**Survey**

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N-S (ft)	+E-W (ft)	Map Northing (ft)	Map Easting (ft)	Latitude	Longitude
6,150.00	0.25	293.49	6,120.50	289.96	-216.94	14,527,232.99	2,054,953.40	39.993813	-109.519983
6,244.00	0.13	255.86	6,214.50	290.02	-217.24	14,527,233.04	2,054,953.11	39.993813	-109.519984
6,339.00	0.13	152.11	6,309.50	289.90	-217.29	14,527,232.92	2,054,953.06	39.993813	-109.519984
6,433.00	0.13	133.24	6,403.50	289.73	-217.16	14,527,232.75	2,054,953.19	39.993813	-109.519983
6,527.00	0.31	129.74	6,497.50	289.49	-216.89	14,527,232.52	2,054,953.46	39.993812	-109.519982
6,622.00	0.56	148.11	6,592.50	288.93	-216.45	14,527,231.97	2,054,953.91	39.993810	-109.519981
6,717.00	0.63	141.86	6,687.49	288.13	-215.88	14,527,231.17	2,054,954.50	39.993808	-109.519979
6,811.00	0.56	126.11	6,781.49	287.45	-215.19	14,527,230.51	2,054,955.20	39.993806	-109.519976
6,906.00	0.75	139.61	6,876.48	286.71	-214.41	14,527,229.78	2,054,955.99	39.993804	-109.519974
7,000.00	0.94	144.11	6,970.47	285.61	-213.56	14,527,228.70	2,054,956.86	39.993801	-109.519971
7,095.00	1.13	150.36	7,065.46	284.17	-212.64	14,527,227.27	2,054,957.80	39.993797	-109.519967
7,190.00	0.56	254.61	7,160.45	283.23	-212.62	14,527,226.33	2,054,957.83	39.993795	-109.519967
7,284.00	0.50	252.86	7,254.44	282.99	-213.46	14,527,226.07	2,054,957.00	39.993794	-109.519970
7,379.00	0.50	223.24	7,349.44	282.56	-214.14	14,527,225.64	2,054,956.33	39.993793	-109.519973
7,473.00	0.69	211.36	7,443.44	281.78	-214.71	14,527,224.85	2,054,955.77	39.993791	-109.519975
7,568.00	0.63	173.74	7,538.43	280.77	-214.95	14,527,223.83	2,054,955.54	39.993788	-109.519976
7,662.00	0.94	158.86	7,632.42	279.54	-214.62	14,527,222.61	2,054,955.90	39.993785	-109.519974
7,757.00	0.88	76.49	7,727.41	278.98	-213.63	14,527,222.07	2,054,956.90	39.993783	-109.519971
7,852.00	1.06	101.61	7,822.40	278.98	-212.06	14,527,222.09	2,054,958.47	39.993783	-109.519965
7,946.00	0.50	133.99	7,916.39	278.52	-210.91	14,527,221.65	2,054,959.62	39.993782	-109.519961
8,040.00	0.06	283.49	8,010.39	278.24	-210.67	14,527,221.38	2,054,959.87	39.993781	-109.519960
8,135.00	0.50	38.48	8,105.39	278.58	-210.46	14,527,221.72	2,054,960.08	39.993782	-109.519960
8,229.00	0.44	47.86	8,199.39	279.14	-209.93	14,527,222.29	2,054,960.59	39.993784	-109.519958
8,324.00	0.75	69.36	8,294.38	279.61	-209.08	14,527,222.77	2,054,961.43	39.993785	-109.519955
8,418.00	0.56	352.74	8,388.38	280.28	-208.56	14,527,223.45	2,054,961.94	39.993787	-109.519953
8,513.00	0.50	17.49	8,483.37	281.14	-208.50	14,527,224.30	2,054,961.99	39.993789	-109.519953
8,607.00	0.69	346.24	8,577.37	282.08	-208.51	14,527,225.24	2,054,961.96	39.993792	-109.519953
8,704.00	0.50	354.11	8,674.36	283.06	-208.69	14,527,226.23	2,054,961.77	39.993794	-109.519953
8,798.00	0.31	350.86	8,768.36	283.72	-208.77	14,527,226.89	2,054,961.67	39.993796	-109.519954
8,892.00	0.31	59.36	8,862.36	284.10	-208.59	14,527,227.27	2,054,961.84	39.993797	-109.519953
8,987.00	0.19	94.24	8,957.36	284.22	-208.22	14,527,227.40	2,054,962.22	39.993797	-109.519952
9,131.00	0.13	109.36	9,101.36	284.15	-207.82	14,527,227.33	2,054,962.61	39.993797	-109.519950
9,175.00	0.25	178.24	9,145.36	284.04	-207.77	14,527,227.22	2,054,962.67	39.993797	-109.519950
9,270.00	0.56	148.24	9,240.35	283.44	-207.52	14,527,226.62	2,054,962.93	39.993795	-109.519949
9,364.00	0.69	148.36	9,334.35	282.56	-206.98	14,527,225.76	2,054,963.48	39.993793	-109.519947
9,459.00	0.75	143.74	9,429.34	281.58	-206.32	14,527,224.78	2,054,964.16	39.993790	-109.519945
9,553.00	1.19	147.11	9,523.33	280.26	-205.42	14,527,223.48	2,054,965.08	39.993787	-109.519942
9,648.00	1.19	156.11	9,618.31	278.53	-204.49	14,527,221.77	2,054,966.04	39.993782	-109.519938
9,742.00	1.19	162.36	9,712.29	276.71	-203.80	14,527,219.96	2,054,966.76	39.993777	-109.519936
9,836.00	1.69	149.99	9,806.26	274.58	-202.81	14,527,217.84	2,054,967.79	39.993771	-109.519932
9,931.00	1.81	138.99	9,901.21	272.23	-201.12	14,527,215.52	2,054,969.51	39.993765	-109.519926
10,026.00	1.88	129.49	9,996.16	270.11	-198.94	14,527,213.44	2,054,971.74	39.993759	-109.519918
10,121.00	2.13	129.49	10,091.11	268.00	-196.37	14,527,211.37	2,054,974.33	39.993753	-109.519909
10,215.00	2.06	131.86	10,185.04	265.76	-193.76	14,527,209.17	2,054,976.98	39.993747	-109.519900
10,310.00	2.44	132.86	10,279.97	263.24	-191.01	14,527,206.70	2,054,979.77	39.993740	-109.519890
10,405.00	2.44	129.74	10,374.88	260.57	-187.97	14,527,204.09	2,054,982.85	39.993733	-109.519879
10,500.00	2.81	131.24	10,469.78	257.75	-184.67	14,527,201.31	2,054,986.21	39.993725	-109.519867
10,594.00	2.81	131.74	10,563.67	254.69	-181.21	14,527,198.32	2,054,989.71	39.993716	-109.519855
10,689.00	2.75	133.49	10,658.56	251.57	-177.82	14,527,195.26	2,054,993.15	39.993708	-109.519843
10,783.00	3.00	133.11	10,752.44	248.34	-174.39	14,527,192.08	2,054,996.64	39.993699	-109.519831
10,828.00	3.06	132.11	10,797.38	246.73	-172.64	14,527,190.50	2,054,998.41	39.993695	-109.519825
<b>last mwd surveys</b>									
10,878.00	3.06	132.11	10,847.31	244.94	-170.66	14,527,188.74	2,055,000.42	39.993690	-109.519817
<b>projection</b>									